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INDIA RUBBER WORLD

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GUTTA-PERCHA
 DIODOROS GUTTA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

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JULY 1, 1901.

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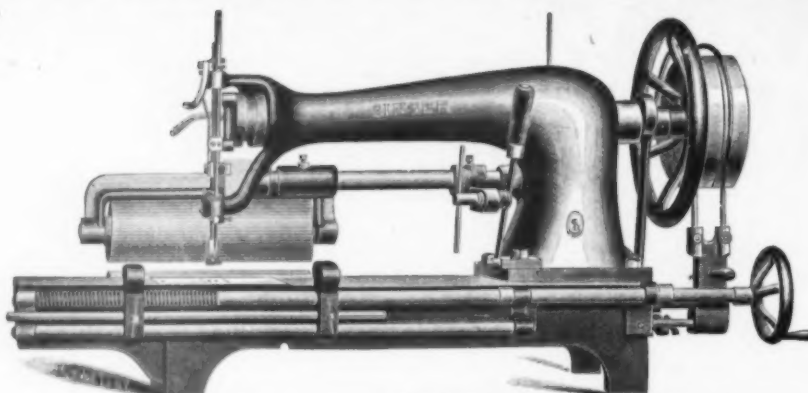
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A NEW TENDENCY IN THE INDUSTRY.

FROM its beginning the manufacture of rubber goods in the United States was divided into a variety of lines, each fairly complete in itself, and, as a rule, involving no knowledge of any other. For example, in a factory producing rubber footwear, little was known about the compounds, machinery, or processes employed by a factory producing clothing, mechanical rubber goods, sundries, and so on, nor did the selling force in one branch of the industry know anything at all regarding the sales methods employed in the other lines of rubber manufacture. The one notable exception to this rule was the National India Rubber Co. (Bristol, Rhode Island) which, during its palmy days, made goods in nearly all of the important lines.

Most of the American manufacturers criticised such an aggregation as tending to confusion. Their motto was the ancient one "Cobbler stick to your last"—meaning the specific line on which the factory was first started.

In marked contrast to this custom is that of the most successful European manufacturers, who make nearly everything in hard and soft rubber under one roof, and are willing to take small orders for anything that a customer may desire.

Within the last two years there has been apparent a change in the attitude of the American rubber manufacturers. It was first shown by the general desire on the part of the leaders to inform themselves fully regarding the market for all kinds of rubber goods. Sooner or later this has been followed by the addition of some line that has seemed at first blush to be entirely foreign to their experience, and often not in keeping with their organization or equipment. In few cases, however, have these added departments proved anything but profitable, and in certain instances they have grown so as to overshadow the original business. Instead of devoting a factory to some single rubber product, the tendency, particularly in the mechanical and sundries trades, is to be equipped both with knowledge and courage to grapple with any problem in either rubber or Gutta-percha that may show a profit.

This does not mean that in the immediate future every rubber factory will make a complete line of staples in all divisions of the rubber manufacture, but it does point to a definite forward step. Until a manufacturer is fairly familiar with all of the manipulations of rubber that are employed in all lines he is not equipped to get the best results in his own. Nor can he secure such knowledge in its best form unless he himself does such manipulation for dollars and cents.

The addition of Gutta-percha goods, Balata specialties, hard rubber, shoes, dress shields, insulated wire, and a host of other lines to factories that in the past have produced only mechanical goods, sundries, or clothing promises not only an added profit to the manufacturer, but the development of new ideas and a definite broadening of trade knowledge. Besides, it may often afford an opportunity, when trade in one branch is dull, to keep the factory employed profitably on another line of goods.

ONE DRAWBACK TO THE EXPORT OF RUBBER, from every part of the world in which it is now found in paying quantities, has more influence than any other consideration in keeping this a high priced commodity. To be more exact, the trouble is not so much in the shipment of rubber from the countries of production as in getting to the rubber camps the necessary subsistence stores for the workers. This condition is particularly true of Bolivia, in which country are to be found to-day probably the richest of all rubber forests, with more favorable climatic conditions for rubber gathering, and a more desirable class of native labor than exists in the Amazon valley. Rubber not being perishable, and having a very high value as compared to weight, is particularly adapted for transportation from remote forests, but the opposite is true of food supplies and to an extent of clothing, implements, and other stores needed to equip rubber gatherers, and the difficulty of carrying these through the trackless forests in which rubber is found in Bolivia seems destined long to discourage the enterprise of outsiders in that direction.

THE MAN WHO SEES WITH HIS EYES SHUT has been measuring the product of the Mexican rubber tree, giving the results in the *Scientific American* of May 18. He says: "It was found that trees five years of age . . . yielded from $3\frac{1}{2}$ to $4\frac{1}{2}$ pounds of pure gum. Trees six years of age . . . yielded 4 to 5 pounds per tree, and from those trees seven years old . . . the yield was $6\frac{1}{2}$ to $8\frac{1}{2}$ pounds per tree. All these trees were cultivated in partial shade." It is to be regretted that the same observer did not include in his tests trees "cultivated" in total shade. He might have found that half grown trees, under such circumstances, would yield nearly a bale and a quarter of rubber. It is surprising how forgetful the authors of all these reports of heavy yields of rubber are, in the matter of supplying such details as will admit of their verification.

THE REPORT OF A GERMAN RUBBER FACTORY, on another page, has more space given to it, perhaps, than is warranted by the interest of a majority of the readers of THE INDIA RUBBER WORLD in the affairs of the particular company to which it relates. But from other points of view, we regard the matter well worth the attention which it receives at our hands. In the first place this is a specimen of the yearly business reports—though it may be more detailed than some—which the directors of twenty-one rubber companies whose shares are admitted to quotation on the German *börsen* make to their stockholders. Here is set forth the standing of practically all the accounts which figure on the company's books except the individual accounts with agents and customers. And not only are totals expressed in the balance sheet and the report of the year's operations, but a narrative report filling several printed pages explains the accounts written off and the inventories of raw materials and finished products, the various reserve funds, and so on, and points out what branches of business have been unprofitable, and in what respects there is promise of better returns next year. A certain amount of this detail, it may be said, is required by law, but the law is only the expression of the public sentiment that shareholders in a registered company are entitled to know what is being done by its directors. Moreover, these reports are of interest as indicating the caution that is shown, in regard to both fixed reserves and the reserves from year to year for possible depreciation—say in the value of inventoried stocks and of book accounts. The result of such management as shown in published share quotations is that, of the twenty-one companies, earning for the past business year an average of 11.41 per cent. on their share capital, the stock of only

three is quoted at less than par, while the average of the highest quotations during a recent week was 171.50 and the average of the lowest, 169.85.

THERE SEEMS TO BE SOMETHING ABOUT THE RUBBER BUSINESS conducive to longevity on the part of those who are engaged in it. Considering the comparative newness of the industry, the average age of the factories is surprising. There is a goodly number of men, too, still in the enjoyment of life, although their active interest in rubber dates back to the time of Goodyear's greatest activity. Not long ago we published a contribution from Mr. Hyatt, now in his eighty-first year, following close upon an account of Mr. Converse's celebration of his eightieth birthday. And in our last issue was reproduced an article relating to the work of L. Otto P. Meyer, who took a conspicuous part in the development of the hard rubber industry almost at its first inception. Though now in his seventy-ninth year, he still takes an interest in the progress of the rubber industry, at his home in Dresden, where, by the way, he at one time filled the post of United States consul, having acquired American citizenship while living in and about New York.

IT SEEMS EVIDENT not only that the more sparsely settled rubber countries must yet draw upon the outside world for labor, but that sufficient sources of supply will be found. For instance, the desirability of Hindoo labor has been pointed out, but the statement invariably is heard that Hindoos cannot leave their own country except under restrictive contract laws. A recent British government report, however, states that there are now 14,000 Hindoos in Jamaica, 83,000 in Trinidad, and 118,000 in British Guiana, among all of which only 13,000 are held under labor contracts. There is currently reported a lack of labor in portions of Mexico for new enterprises. Recently the *San Francisco Call* mentioned the incorporation in that city of a steamship company, having for one of its objects the colonization of Oriental laborers on a large scale in Mexico.

RUBBER WATERPROOFING IN ECUADOR.

A LETTER to THE INDIA RUBBER WORLD from a camp on the line of the railway now being built between Guayaquil and Quito, Ecuador, says: "Opposite the camp is the *hacienda* of an Ecuadorian, where I have to-day for the first time seen rubber gathered. He has an immense property but does not himself know how many rubber trees he has. He has a great many, however, and the rubber he collects is sent to Guayaquil. I bought from him a *poncho* for use in riding. The cloth is of very fine quality, and the rubber is applied to one side in layers, making the best waterproof article I ever saw. I also bought from a native a pair of riding breeches, made by spreading rubber between two thicknesses of cloth, after which the cutting out was done and the trousers made up. It would be a striking novelty to exhibit in a New York rubber store. The owner of the *hacienda*, whose family are in Chile, wants to sell the property, which is rich not only in rubber, but in Peruvian bark and ivory nuts."

THE INDIA RUBBER WORLD has been applied to, through the consulate of Salvador at New York, for information bearing upon the suitability of the Ceará rubber tree for cultivation in that republic. A late issue of the Salvador *Boletín de Agricultura* prints an advertisement of Ceará rubber seeds for sale in San Salvador, and also mentions the planting at San Miguel of seeds of *Sapium biglandulosum*, an important rubber tree of Colombia.

LITERATURE OF INDIA-RUBBER.

THE BOLIVIAN ANDES. A RECORD OF CLIMBING AND EXPLORATION in the Cordillera Real in the years 1898 and 1900. By Sir Martin Conway. Illustrated. New York and London: Harper & Brothers, 1901. [8vo. pp. 12+403+54 photogravures. Price \$3.]

ALTHOUGH having for its chief purpose the recording of the work of a scientific explorer, this book is far from being a collection of dry facts. The author, who is one of the most eminent of mountain climbers, has succeeded admirably in "taking the reader with him along the road," letting him see what appeals to the eye of the experienced traveler who comes into a new country, and withal imparting to him the enthusiasm which sustains one in the most trying situations. Apart from the interest of the book as a narrative of travel, and its contribution to geographical knowledge, it is particularly informing in regard to the resources of a little known country and in regard to the conditions of life there. Bolivia is larger than any country in Europe, except Russia, and possesses many forms of natural wealth, but its landlocked position has kept the country in a singularly backward state. It appears inevitable, however, that the success of the few enterprising foreigners who have settled in Bolivia will lead to a marked growth in their number. "When the people come," writes our author, "the wealth that they may take out of the ground is almost limitless. There hardly exists in the world an area by nature richer, or more beautiful, or better adapted for colonization by white men than this splendid belt of the north-eastern foothills of the Cordillera Real."

A chapter is devoted to "The Rubber Industry," which Sir Martin Conway deems capable of great expansion. The government is anxious to attract foreign capital, in order that the rubber and other resources may be developed, and he believes that investments would be protected. The rubber territory described particularly is that in the upper Beni river region, the production of which is known commercially as "Mollendo" rubber. It is interesting to note that Sir Martin identifies the rubber tree here as the *Hevea lutea*, which may account for the difference between Mollendo and the best Pará rubber, which is understood to be derived chiefly from the *Hevea Brasiliensis*. The rubber from this district goes via Sorata, at the foot of a mountain by the same name, which locality our author regards as the "portal to a great gold region, not improbably as rich and important as the Rand," and destined to attain world renown. Whatever other resources may be utilized will have a favorable influence upon opening the country to rubber gatherers, and it is encouraging to learn how well the native population is adapted for the labor required.

IN CURRENT PERIODICALS.

RUBBER in Mexico. By James Maunders. [Relates to making nurseries.]—*Indian Gardening and Planting*, Calcutta. VIII-20 (May 16, 1901.) p. 356.

A Facial Restoration with Vulcanite. By J. A. Heidbrink. Illustrated.—*The Dental Register*, Cincinnati. LV-5 (May 15, 1901.) p. 249-251.

Rendement en Caoutchouc du *Manihot Glaziovii* (Ceará). [Estimates on proposed cultivation of this species in French Guinea.]—*Revue des Cultures Coloniales*, Paris. VIII-70 (February 5, 1901.) pp. 77-79.

Une Mission Agricole en Extrême Orient. By Ed. Prud'homme. [Relates to planting enterprises in the East Indies, including experiments with Caoutchouc and Gutta-percha.]—*Revue des Cultures Coloniales*, Paris. VIII-78 (June 5, 1901.) pp. 321-336.

Rubber Planting in the West Indies. By J. H. Hart, F. L. S., superintendent, Royal Botanic Gardens, Trinidad. [Paper read before the agricultural conference held in Barbados, January 5, 1901; illustrated.]—*West Indian Bulletin*, Barbados. II-2 (1901.) pp. 100-113.

OTHER PUBLICATIONS RECEIVED.

COMPILATION OF NOTES ON THE MOST IMPORTANT TIMBER TREE Species of the Philippine Islands. Prepared by Captain George P. Ahern, 9th U. S. Infantry, in charge of the Forestry Bureau Manila, P. I. [Flexible leather. Small 4to. pp. 112+43 colored plates. Price \$3 gold.]

THIS is the most ambitious publication to date of the forestry bureau at Manila, and gives further evidence of the activity of Captain Ahern in attempting to make available the abundant timber resources of the Philippines. The book was produced at Manila, and its appearance in every detail is creditable to those concerned in the work. We hope that by the time another volume is ready for publication by the Manila forestry bureau, it will be possible to include in it some more definite information regarding India-rubber than is contained in this.

THE WEST-AFRICAN YEAR-BOOK. 1901 LONDON: THE WEST AFRICAN Publishing Syndicate, Limited. 1901. [Cloth. 8vo. pp. xvi+306. Illustrated. Price, 5 shillings, net.]

It does not require an extended examination of this book to indicate the value, to all who are engaged in the African trade, of the character of information which it contains regarding financial, commercial, mining, and industrial interests in British West Africa. Of course it is desirable that, in such a reference book, the data given should be recent and accurate, and we believe that in these respects the volume before us leaves nothing to be desired. The statistics of India-rubber contain everything that is available from any authentic source for a series of years back, and the other information contained in this "Year-Book" will possess more or less interest for the rubber trade because of the light which it throws upon the general development of West Africa, all of which assists in the expansion of the rubber output.

SHADE IN COFFEE CULTURE. BY O. F. COOK. [BULLETIN NO. 25. United States Department of Agriculture, Division of Botany.] Washington: Government Printing Office. 1901. [Paper. 8vo. 79 pp. +16 plates.]

THE conclusions of this writer point to the question of shading coffee as one to be decided by local conditions, shade being a necessity in some localities, while positively harmful in others. Mr. Cook considers in detail the characteristics of all the various trees and plants which have been tried for coffee shade, and is of the opinion that neither the *Castilleja elastica* nor the Ceará rubber tree is suitable for this purpose.

INDUSTRIAL Chronology of the Commonwealth of Massachusetts. [Part I. Report for 1900, Statistics of Manufactures.] Boston: 1901. 8vo. 60 pp.

National Association of Manufacturers. Annual Report of the President, presented at the Sixth Annual Convention, Detroit, June 4-6, 1901. 8vo. 24 pp.

Population of the United States by States and Territories, Counties, and Minor Civil Divisions. Twelfth Census, 1900. Report on Population, Part I. Washington: Government Printing Office. 1901. 4to. xv+480 pp.

THE "SOLICUM" SUBSTITUTE.

THE United States consul at Copenhagen writes to his government: "This office is deluged with letters from American manufacturers in regard to a report emanating from Bergen, Norway, to the effect that a chemist of Copenhagen had discovered a process for manufacturing out of asphalt a material called 'Solicum,' which serves as a substitute for rubber. No process has been patented or discovered in Denmark for manufacturing such a material out of asphalt. A chemist named C. A. R. Steenstrup has recently patented a process for makingolicum from old rubber and oil. Its efficiency as a substitute for pure rubber has yet to be demonstrated." The discovery of "Solicum" had previously been announced by another United States consul.

THE PICKETT PNEUMATIC VALVE.

SOME recent demonstrations which have been made of the Pickett All-Rubber Valve, in some of the leading tire factories in the country, have brought it into such favor with manufacturers that the new invention seems assured of a very wide adoption. The various advantages of this valve have been referred to already in THE INDIA RUBBER WORLD, but the point has not been made definitely, hitherto, that it is as applicable for all the forms of double tube tires now on the market as for single tubes.

One fact which commends the Pickett valve particularly is the readiness with which it may be applied to tires which have become damaged through the tearing out of the ordinary stem valve. Hitherto tires which have reached this condition have, as a rule, had no further value except for scrap. The cost of putting in new stem valves is heavy, and the result not always satisfactory. The use of this new all-rubber valve would enable the manufacturer to save every torn tire returned to the factory for replacement. It is only necessary to cut off the old-fashioned metal valve, patch up the hole (the patch, of course, being concealed by the rim will not show) and then the tire is ready for the insertion of the rubber valve, which as before stated, is inserted just as though it were a plug, and with the same facility. It is then, of course, a new tire, and may be sold as such.

So far as the tire repair trade goes, the same conditions apply. This new rubber valve can be inserted just as though it were a plug, and with the same facility. This will enable repair men, when tires are given them out of which the old-fashioned metal valve has been torn, to replace this metal valve with a new rubber valve at probably the same price paid to them for their work, but at a very greatly reduced cost to the repair man himself for the materials used in this work. In case by any accident the Pickett valve should become injured, the small opening in the tire which it occasions can readily be plugged, and a new valve inserted, in another part of the tire, by any repair man, in a few minutes, and at a very trifling cost for materials.

The Pickett Two-Part Valve has been applied successfully to football bladders, for which purpose it is found to possess many advantages.

The inflation of footballs by means of the ordinary rubber stem is not always an easy task, nor is the result all that could be desired. At best, the doubling up of the stem beneath the outer cover gives the ball an uneven shape which interferes often with good play. And in order to inflate a ball by the old method it is necessary to open wide the slit in the cover, and difficult to lace it again, particularly if the ball be inflated hard. There have been valves designed to take the place of the stem, but they had the disadvantage of being composed in part of metal, and it is true in footballs, as in bicycle tires, that metal and rubber valve parts will not work together. The Pickett Valve, however, being composed wholly of rubber, is more reliable and more durable in service than any metal valve, and more easily worked. With the Pickett Valve, a football may be inflated with a bicycle pump, or with a simple and specially designed inflater, and when the bladder has been inflated, the cover can be more easily laced, and the football will present a better shape, than has ever been the case hitherto. With this valve, a smaller slit in the cover is



sufficient, and it is possible often to reinflate a ball by unlacing it very slightly, no opening in the cover being required other than for admitting the point of the inflater.

SENATOR DR. HEINRICH TRAUN.

THE election of Dr. Heinrich Traun, proprietor of the Harburg Rubber Comb Co., to the position of senator of the free city of Hamburg—mentioned in the last INDIA RUBBER WORLD—is spoken of in the German press as having given great satisfaction to the people of Hamburg, with whom the new senator is an exceptional favorite. The *Neue Hamburger Zeitung* says, editorially: "We greet with sincere pleasure the selection made [of Dr. Traun] and we do so from a double point of view. First, the personality of the man elected, his sphere of activity in the past, and the general high esteem which he has been able to earn, are a sure guarantee that in this, the highest honorary office of our state, he will act for the benefit of all. Secondly, we rejoice that by this election a new principle in the composition of the senate has been introduced. In the new senator we possess a distinguished expert in chemistry and large industrial pursuits. Our Hamburg industry has thus obtained, for the first time, a seat and vote in the senate, which means the fulfilment of a demand that has become more pressing every day in modern times."

Dr. Traun was born in Hamburg in 1858. He attended the college of Dr. Wichard Lange, after which he was prepared for the university by private tutors. He studied the physical sciences in Göttingen, and was graduated at the age of only 21 as a doctor in philosophy, choosing "Kautschuk" as the subject of his thesis. Going to London, he worked as a chemist in the royal dockyards, and had an opportunity to come into contact with laboring men at their work. Later he was employed in Paris, after which he entered the Hamburg rubber factory of his grandfather, H. C. Meyer, Jr. After fifteen years of working together, grandfather and grandson separated, Mr. Meyer retaining the cane (stick) business and Dr. Traun the rubber branch, which latter has been developed on a very large scale. By the way, Dr. Traun is a nephew of Mr. Carl Schurz, who is so well known in America, Mr. Schurz having married a sister of Dr. Traun's mother. Dr. Traun suffered a deep bereavement in November last in the death of his wife, who took a special interest in the benevolent institutions organized for the benefit of the employés of the Harburg factories.

THE inspection department of the Associated Factory Mutual Fire Insurance Companies (No. 31 Milk street, Boston) send us a pamphlet [4¼" × 7¼". 28 pages] containing specifications for Underwriters' rubber lined cotton fire hose and unlined linen fire hose, adopted August 20, 1900, together with lists of approved brands of such hose and the names of manufacturers, including *fac similes* in color of the trade mark of each. It will prove useful at every factory where mill hose is bought for fire protection.

THE postoffice department received bids at Washington until 2 P. M., on May 2, for supplies for the postal service—including rubber goods—for the fiscal year beginning July 1. It might be supposed that, with the constant growth of the service, the demand for rubber goods would increase, but such seems not to be the case. For example, in 1899 the advertisement called for 9000 pounds of rubber bands; in 1900 the requisition was for 8250 pounds; and this year the same figures appear. As for the other items in rubber, the details are practically the same as for two years past.

THE MANUFACTURE OF RUBBER HOSE—A REVIEW.

By Richard A. Leigh.

IT is interesting to note the attempts that have been made since 1861 and up to the present time to improve the methods used in the manufacture of rubber hose, and particularly to find that at the present time about the only noteworthy improvement made is in the use of the machine for wrapping the fabric around the inner tube.

Many inventors have devised methods and machines for the production of hose composed of fabric and India-rubber, but none of them, up to the present time, has been adapted in any form for the purpose it was devised for. The more important of these improvements will be found to be those practised by Thomas J. Mayall and fully described in his specifications in Patent No. 31,552, issued February 26, 1861, and Patent No. 88,887, dated April 13, 1869, and that of Coles, Jacques and Fanshaw, issued in England August 17, 1864, and allowed in the United States October 20, 1868, as No. 83,132.

It can be shown that the mechanical construction prior to these patents was the same as that in use to-day, with the exception of the wrapping machine taking the place of hand-wrapping, or, in other words, the plies of fabric were wound around the tube by hand instead of by machine. It must be borne in mind that we are not discussing compounds and fabrics, but only methods of construction as practiced in the art of hose manufacture, where various kinds of fabrics, coated with India-rubber, are made up in tubular form and vulcanized together. Mayall says that the great difficulty to be overcome in his day was to make a hose of sufficient strength to resist any great pressure and at the same time not have it bulky and clumsy.

To accomplish this he made up a tube of India-rubber in the usual way and, after placing it over a mandrel or pole, wound around it several layers of twine wire or other suitable thread. It was then covered with an outer tube of India-rubber and vulcanized in the usual manner.

It is evident that at this early date it was seen by Mayall that the most successful hose would be that which contained the maximum strength with the minimum weight, or further, that his method of winding threads would place the strength where it was most needed to resist the pressure of fluids, viz.: in a transverse direction, as threads so wound would receive the strains and pressures in the direction of the length of their fibers and thus could sustain the greatest force without breaking.

In his further experiments it is evident that some difficulty had been experienced with this type of hose elongating, in consequence of which we have his patent No. 88,887, dated April 13, 1869, in which he describes the use of longitudinal binders of thread, wire, or narrow strips of cloth fastened to the periphery of the tube along its whole length, combined with strands or threads wound around the binders in the manner described in his prior invention.

Both of these types of hose were made up in the primitive way of the times, and if any attempt at devising a machine for its production was made no record of it exists. It is apparent that the attempted change in methods of construction was never used to any extent by Mr. Mayall, but the idea of winding threads by machinery for the production of a practical hose for commercial use was first made possible by Coles, Jacques and Fanshaw, of Tottenham, England. There is ample proof that

they did for a number of years manufacture in the factory of Wm. Warne & Co. (London) a large amount of this so called "Volute" hose, and that it gave excellent service and was profitably conducted.

The manufacture of this Volute hose is best described as follows: It consisted of covering a rope of suitable size with a sheet of India-rubber and winding around it by the machine a number of layers of threads, each layer being wound in an opposite direction and being coated with a solution of India-rubber. When a sufficient number of layers or plies of thread had been wound on, an outer covering of India-rubber was then applied and the piece was ready for vulcanization.

I think a clear idea of the machine's operation can be obtained from the following description: It consists of a framework supporting a hollow shaft upon which are mounted loosely two disks or wheels, on which are mounted in suitable bearings a series of bobbins provided with a supply of yarn or threads which pass separately from the bobbins through holes or eyes in a circular plate mounted on stud pins fixed in the face of the disk so as to rotate therewith.

At the back of each disk or wheel is a pulley around which passes a driving band from another pulley on the sleeve shafts, which may be actuated in any convenient manner. The driving shaft carries a double acting sliding clutch, capable of being thrown into gear with either of the clutches on the inner ends of either of the sleeve shafts, so that either of the disks with their bobbins may be actuated and made to lay the threads round the core on which the tube is formed. This core passes through a hollow shaft and central holes in the disks. It can be seen that if the core be drawn through the tubular shaft and disks, and one of the latter be set in rotary motion by throwing the clutch on the main driving shaft into gear with the clutch on the end of the sleeve shaft corresponding to the disk and set of bobbins it is desired to rotate, then the threads from the bobbins will be laid helically round the core from end to end. When the entire length of the core has been covered in this manner it will be drawn back again through the disks and hollow shaft, and the other disks thrown into gear, when the threads from the bobbins of the second disk will be laid helically round the core in the opposite direction to the first layer of threads.

This method of construction, we find, went out of existence owing to the method of construction being too expensive to compete in price with the hose made of woven fabric and rubber, and yet, after being in use a number of years, and constructed by practical rubber mechanics, it seems to have left no impression in a mechanical way upon the manufacture of to-day. In fact, the most important feature in my mind—the angle at which threads or fabric should be laid to obtain the best results in hose—appears to have been lost entirely.

At the present time fabrics of a suitable weight and weave, intended for use in the manufacture of India-rubber hose, are first passed over hot drums so that all moisture may be dried out, and in this way prepared for the frictioning, which means the grinding into the pores or meshes of the fabric a suitable plastic composition of India-rubber and other materials used in its adulteration, by a machine known as a friction calender. This step is very important, as the quality of the friction often determines the value of hose as regards strength and weight, and

the best of compositions are only too often ruined by carelessness at this stage of manufacture.

In some of the best grades of hose a light coating of India-rubber is applied to one side of the fabric, after both sides of it have been frictioned, which, of course, gives it greater strength. In all well regulated factories a list showing the average weight of composition of various densities applied to each roll—or 120 yards—of fabric is kept, and used as a guide to good work on the friction calender.

We next find this frictional roll of fabric in the cutting room laid out on long tables and being cut on the bias, or at an angle of about 45°, in widths to suit the diameter and ply of hose into which it is to be made up. As these pieces are cut they are turned end for end and made into one continuous piece by overlapping the end of one piece on the other and so making a continuous length. This is done to give the hose its greatest strength in the direction of its length, so as to resist the pressure exerted on it by the passing of fluids through it under pressure.

This strip of fabric is then passed to the preparing or making up table and a long strip of sheet rubber wide enough to cover the outside circumference of the hose is attached to one side of the fabric along its entire length, so that when the fabric is rolled up in the form of hose it will be protected by an outer coating of India-rubber. The fabric is then ready to be wound around the inner tube of the hose, which has been pre-

pared by joining around a pole of suitable diameter a sheet of rubber cut wide enough to cover the outside circumference of the pole. This pole with the inner tube of rubber is placed in the winding machine, which consists of two rolls of the desired length, working parallel to each other and in the same plane, and a third roll which is so arranged that it may be raised or lowered at the will of the operator.

The fabric edge of the strip prepared as previously described is then attached to the tube along its entire length, and the third or movable roll of the machine is lowered so that it strikes the edge of the fabric when the operator puts the machine in motion, and the fabric is rolled around the inner tube with sufficient pressure to insure the adhesion of the component parts of the hose.

To prepare it for vulcanizing it is then wrapped around with wet strips of cloth, first with a strip rolled around its entire length, and then with one applied spirally with sufficient pressure to exclude all air and hold the parts of the hose under pressure while being vulcanized, after which it is placed in a boiler of a desired length and subjected to the required heat for any desired time to effect vulcanization. Upon the completion of the vulcanizing the cloth wrappers are stripped from the hose and air under pressure forced between the hose and the pole on which it was made, thus releasing the hose from the pole, when it is ready for inspection and shipment.

Bristol, Rhode Island, June 12, 1901.

THE DUNLOP TYRE CO.'S NEW PROCESS.

THE affairs of the Dunlop Pneumatic Tyre Co., Limited, were gone over very thoroughly by the chairman of the company, Mr. Harvey Du Cros, at a recent extraordinary general meeting held at Birmingham. The first business was the formality of confirming the purchase, by the Dunlop Rubber Co., of the Rubber Tyre Manufacturing Co., Limited, as from July 1, 1900—in both of which companies the Dunlop tyre company had control. The Dunlop people, as early as 1896, acquired a going rubber concern at Birmingham from the Byrne brothers, which was continued under the name of The Rubber Tyre Manufacturing Co., for making tires under the Dunlop control. Later in 1896 the Byrne Brothers India Rubber Co., Limited, was registered, and a new factory erected at Birmingham, which also was acquired by the Dunlop tyre company, who in time thought it advisable to change the name of the Byrnes works to the Dunlop Rubber Co., in order that all possible goodwill there was to the name might be realized on. The subscribed capital of the Rubber Tyre Manufacturing Co. was £120,000, for which the shareholders accepted £120,000 in debentures of the Dunlop Rubber Co., secured by all the property of the latter, including the Rubber Tyre plant. The Dunlop Rubber Co.'s indebtedness to the Dunlop Pneumatic Tyre Co. has been converted into stock in the Rubber company. It is the intention to manufacture all the rubbers for the Dunlop tires at the two Birmingham mills; also to close the Coventry works where Dunlop tires formerly were put together, and concentrate their whole tire making at Birmingham.

The keynote of these transactions may be found, perhaps, in some extracts from the address by Chairman Du Cros which follow:

"The most important reason for this purchase—although the others are all good—was the application of a new process. This process, which is very important, was brought under our

notice 2½ years ago. It was then, we considered, incomplete, and we have kept in touch with it from that day to this, and recently, whatever the Rubber company thought of it, we thought we saw our way to make it complete. The directors were careful to study the question practically; the Rubber company afforded us facilities for doing so, and we demonstrated at their own mill that it would suit our purpose.

"The acquisition of this process will effect further economy. Up to this time we have had great difficulty in using mechanical processes in our manufacture, because a strong point of our manufacture is that our tires were made by hand, and made very carefully, and that certain features were preserved through hand work. This process destroys none of the features that are peculiar to our tires through hand work; on the contrary, it will undoubtedly make the tire considerably better than anything we have ever made before, and considerably better than anybody else has ever made.

"We give practical effect to our belief in that, because when this manufacture is established it is the intention of the company to extend the guarantee of its tire, which was hitherto for twelve months. So confident are we of the results given by this process that we will extend the guarantee of the tire and make it, I think, more difficult for other persons to follow us. The purchase of this patent will give us an extension of an important patent of a manufacturing character—not a master patent in relation to the manufacture of tires, but a very important patent—till the year 1910, which is in itself of great importance.

"You might wonder why the Rubber company should part with such an important patent; but the reason is that the Rubber company could not work it without infringing our patent; so that, although it was exceedingly useful to us, it was of little or no use to them, and could not have been of use for some years to come."

To summarize: The Rubber Tyre Manufacturing Co. has been taken more closely under the Dunlop control because of its ownership of a patent, by means of which mechanical processes will take the place of hand work on tires, with such advantage in prospect as will enable the tire guarantee to be extended, and give the Dunlop interest a monopoly that will last eight years after the basic Dunlop patent has expired.

Mr. Du Cros also made a formal statement regarding the motor tire business. Hitherto the Dunlop company has not made motor tires, which cannot be made by hand, by their process, but machinery is being constructed to make such tires at Birmingham. Meanwhile automobilism was growing in the United Kingdom, and there was a demand for pneumatic tires, which could not be imported without infringing the Dunlop patent. Then, as Mr. Du Cros expressed it: "We authorized one of our licensees [The Clipper Pneumatic Tyre Co., Limited]

to import the manufacture of one particular French manufacturer," named Michelin, who has been successful. We have thus placed at the disposal of the automobile world the best tire that can be obtained to-day, and in the course of the next few months this company will, will, we hope, be making tires better than have ever been made before."

Finally there was a general discussion of the propriety of reducing the capital of the Dunlop Pneumatic Tyre Co., which is £5,000,000. The chairman pointed out that the company could not be considered over capitalized, if it could only defend absolutely the monopoly to which its patents entitle it. But the infringements are greater than ever—220 actions at law within six months on this account. The chair called for a vote on the question of the principle of reconstruction, stating that if it should be approved, the directors would consider the matter further. Only a half dozen hands were raised in the negative.

COMBINATION OF COTTON DUCK MILLS.

THE United States Cotton Duck Corporation filed articles of incorporation in the office of the secretary of state at Trenton, New Jersey, on June 4, being signed by Robert S. Green, Edward M. F. Miller, and Albert C. Wall. The object is stated to be the manufacture of cotton duck. The capital authorized is \$50,000,000, divided equally into 6 per cent. cumulative preferred and common stock. The principal office is stated to be at No. 55 Montgomery street, Jersey City. By this organization has been consolidated the principal cotton duck manufacturing plants of the country.

The new company has acquired through ownership of stock or by direct purchase, the Mount Vernon-Woodberry Cotton Duck Co., which was a consolidation of fourteen cotton duck mills with a capitalization of \$23,500,000, the Stark Mills of Manchester, N. H., La Grange Mills of La Grange, Ga., and the Hogansville Manufacturing Co. of Hogansville, Ga. In connection with these properties the new corporation will operate under contract, with option to purchase, the West Point Manufacturing Co., the Lanettee Dye Works and Bleachery, and the Riverdale Manufacturing Co., all of West Point, Ga. The company will operate 400,000 spindles. For the present purposes of the company, an issue has been made of \$16,100,000 in preferred and \$10,000,000 of common stock; total, \$26,100,000.

A meeting for organization was held on June 5, when a long list of directors was elected, who in turn, at a meeting held in New York, chose the following officers:

Chairman Board of Directors.—S. DAVIS WARFIELD, president of the Continental Trust Co., Baltimore.

President.—RICHARD CROMWELL, president of the Mount Vernon-Woodberry Cotton Duck Co., Baltimore.

Vice Presidents.—J. SPENCER TURNER, of the J. Spencer Turner Co., New York; JAMES E. HOOPER, vice president of the Mount Vernon-Woodberry Cotton Duck Co., Baltimore; WILLIAM H. WELLINGTON, of Wellington, Sears & Co., Boston.

Secretary.—DAVID H. CARROLL, Baltimore.

Treasurer.—CHARLES K. OLIVER, treasurer of the Mount Vernon-Woodberry company, Baltimore.

Assistant Treasurer.—SIDNEY E. COOLIDGE, treasurer of the Stark Mills, Boston.

Executive Committee.—S. DAVIS WARFIELD, E. A. Brinkerhoff, Michael Jenkins, William H. Wellington, Henry A. Parr, Thomas M. Turner, Sigmund Lehman.

It is understood that the policy was outlined at the directors' meeting referred to, for the sale of the products of the mills. Under the plan the avenues for the sale of the goods manufactured by the company will be largely increased. The plan is very comprehensive and includes methods for the protection of all agents of the company.

It appears that much of the cotton duck output consumed in the rubber industry is not affected by the new combination. For instance, one of the large New England rubber companies, in the mechanical line, practically control the production of a duck mill which is not included in the new organization. Another mill which sells largely to the Trenton rubber factories also remains on the outside. J. & W. Lyall, of the "Brighton" cotton mills, in New York, who supply fabrics to the tire trade to such an important extent, remain independent. In the line of ducks used for rubber boots and in tennis goods, James S. Gary & Son, of Baltimore, are important producers, and they have not been included in the combine. It may be mentioned that special brands of ducks are used in the various branches of the rubber manufacture, and that mills catering to this trade conform their production to specific demands. At the same time the goods used are in many cases bought through commission houses, and some of the leading houses referred to as supplying the rubber footwear industry are intimately connected with the new United States Cotton Duck Corporation, though this fact does not prevent their handling the output of mills on the outside.

A manufacturer of carriage cloths said to a representative of THE INDIA RUBBER WORLD:

"Our purchases in ducks are confined almost wholly to commission houses. We understand they obtain a large proportion of their supplies from the south, although there is a considerable quantity of these goods manufactured in the north. Having dealt with the commission houses, I am not in a position to give you the names of the manufacturers of these goods. The quality of duck used in the manufacture of our carriage cloths is of a particular kind we have made to order, according to our own ideas. The present price of cotton ducks, as compared with a year ago, is about 2 cents less on the yard. We are buying these goods at 1½, 2, and 2¼ cents less than two years ago."

"America leads the world in the production of fine cotton duck," said a large wholesale dealer in the material. "There are now in the United States some twenty-five mills engaged in the manufacture of the goods. These concerns have a capital of \$20,000,000, and employ about 12,000 persons, who turn out a finished product valued at \$35,000,000 annually. American cotton duck is exported quite largely to Mexico and Central American states, and the West Indies. It is also shipped to Germany, France, and England."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THIS company, whose chairman of directors, Mr. J. E. Baxter, is the chairman of the Rubber Manufacturers' Association, ranks now in the extent of its buildings and the magnitude of its trade with such firms as Macintosh's and Moseley's. Considerable extensions have been

LEYLAND AND
BIRMINGHAM
RUBBER CO., LIMITED.

carried out in late years and building operations on a large scale are still in progress. As the company has plenty of land at disposal lofty buildings have been abjured, the single story shed having been largely adopted as minimizing the labor in the movements of raw and partially manufactured material. A good deal of power is supplied by electro motors, and the works are lit by the electric light. Altogether there is a great deal about these works which might possibly be followed with advantage by other firms who exhibit a more conservative tendency in the adoption of modern procedure. Besides a large mechanical trade, surgicals—especially seamless teats—occupy a considerable manufacturing space, a fact which is reassuring, considering the inroads which foreign competition has made of late years upon the surgical business done by those firms in this country who make it a specialty. In spite of the somewhat Draconic rules and regulations which the workmen are required to observe, there are probably no works where greater harmony exists in the relations between master and man—a condition of affairs to which the tact and urbanity of Mr. Baxter largely conduce.

THESE works were sold by auction in Manchester, in the suburbs of which city they are situated, on May 21, the company never having recovered from financial difficulties growing out of the failure of a certain patent tire making machine, an American invention, to answer expectations. It is now some years since Mr. Worth left the employ of Messrs. Macintosh & Co. and, in conjunction with Mr. James Lee, of the Ancoats Vale Rubber Co., started the Droylsden works under the title of Worth & Co. Mr. Lee, however, gave up his interest in the concern after a short time and went to America, where he engaged successfully in the rubber manufacture. The conversion of the Worth company into the Droylsden Rubber Co., Limited, with a view primarily to exploit the machine referred to above, proved a bad speculation, as up to this time money had always been made at these works. Considering the land and machinery on offer, it cannot be said that Mr. Baxter, of the Leyland company, who ultimately became the purchaser, did badly with his final bid of £3550 as £5000 had previously been offered and refused.

THE sensation of the Law courts, as far as our particular trade topics are concerned, has been the knocking over of the Pegamoid patent by Mr. Justice Joyce. An action was brought by Pegamoid, Limited, against the British Leather Cloth Manufacturing Co. of Newton, near Manchester, on the ground that the process used by the latter firm infringed the patent granted to Frederick George Annison in 1891 for impregnating textile bodies with a solution of celluloid. Mr. Edward Bevan's evidence, though given on behalf of Pegamoid, could not, however, stand the fire of cross examination as far as showing that there was any material difference between coating and impregnation with celluloid. The former process having been in operation prior to 1891, it was held by the judge that there was no infringement, and that there was

not sufficient to support the patent. It cannot be said that this decision has brought dismay into the minds of the shareholders, for they have long ago resigned themselves to their fate, but it is not very flattering to the supposed astuteness of those who advised as to the value of the patent at the time the company was brought. The late Mr. Joseph Moseley was very enthusiastic about Pegamoid and expected that great things would come of it; others, however, including chemists of repute, made no secret at the time the prospectus appeared, of their opinion that the patent as a patent was practically worthless, and predicted that if it proved at all valuable it would be successfully contested; the hypothetical clause of this opinion has not been substantiated, but the result prophesied has, as I have just shown, come to pass.

MOTOR-CAR owners, especially those to whom money is an object, have been gratified by the announcement of the North British Rubber Co. that they are prepared to make pneumatic tires to order at a price considerably lower than that asked by the Dunlop Pneumatic Tyre Co.

A prominent motor enthusiast tells me that he is going to give these tires a trial, to see how nearly they come up to the Michelin standard. Although the pneumatic tire has the greater number of adherents, the special tire made by Falconnet Perod-eaud et Cie., of Choisy-le-Roi (Seine), finds prominent supporters in this country. This firm had a large show of their tires in the machinery section at the late Paris exhibition. Their tire, at least that type which is to be seen in use in this country, is best described as a compound, as it embraces features of both pneumatic and solid tires. Compared with the pneumatic, it may be said the price offers no inducement to purchasers, its advantages in use, for which, however, I cannot personally vouch, forming the basis of attraction.

THERE is something rather improbable about the utility of the English patent of Messrs. Litel and Wolde, of Berlin, and in which it is proposed to eliminate noxious gases from the air of rooms by using orifices closed by diaphragms of Caoutchouc or "similar material." I cannot say anything about "similar material," which is a delightfully vague term, but I rather imagine that the rate of diffusion or osmosis will be found painfully inadequate for ventilating purposes, and if the gases present are really noxious I should imagine that the interests of those concerned would be best served by the opening of the door or window after the time-honored custom.

THERE are numerous evidences of the popularity of this packing. One of the largest cotton mill owners told me that he preferred it to anything of the sort which he had used. Messrs. Angus & Co., of Newcastle-on-Tyne, Leeds, etc., give it considerable prominence in the windows of their establishments, stating on the label that it will not deteriorate with age. Age, I suppose, is in this connection used comparatively, for the contention can hardly be put forward that it is indestructible. Brass filings figure among the rather numerous components of this packing, a fact that at first sight strikes one as rather singular, considering the well known destructive action of copper and its alloys upon rubber. The explanation of its innocuousness in this case is, however, no doubt due to the fact that the proportion of mineral matter present far exceeds that of the rubber, its power to do mischief

MOTOR
TIRES.

NEW
PATENT.

JENKINS
PACKING.

DROYLSDEN
RUBBER
WORKS.

PEGAMOID.

thus being largely neutralized. This does not, of course, afford any clue as to why the metal should be present and, in common with others, my curiosity on this head has been aroused. The attempts which have been made on this side with the purpose of producing a body of similar utility do not seem to have met with more than partial success, as far as I can gather.

THIS concern, which is only of moderate dimensions, represents the rubber manufacture as far as the Principality is concerned, the managing director being Mr. A. M. James. It is, I believe, the only rubber works where the brattice cloth business is carried on, though the two businesses have no real connection, as no rubber is used in the brattice cloth manufacture. The company have a large local demand for their goods in the surrounding colliery districts, the large colliery concerns in South Wales and Monmouthshire being in the habit of making yearly contracts for their requirements of rubber goods. The title of the company is not exactly in harmony with its geographical situation, but there is enough historical evidence for the inclusion of Monmouth among the Welsh counties to justify its adoption.

THESE works, where the manufacture of rubber machinery is carried on, have undergone considerable extension since their inception, on a modest scale, ten years ago, and it is probable that additional buildings will shortly be erected

on adjoining land. Machinery for the cable manufacture is made a specialty, the firm being at present engaged on turning machines for the paper covered telephone circuits, among other work dealing with modern developments of the cable industry. The rise in favor of the high pressure vulcanizing presses, by which all tendency to blowing is eradicated, has been prominent in bringing business to the firm, the comparatively high first cost of these machines having been considered by prominent rubber manufacturers as of no particular moment compared with their attendant advantages.

IT has been asserted that pure rubber untouched by any manufacturing processes will remain sound for ever, and there seems no reason to attempt to disprove this assertion, bold though it be. It is impossible, I suppose, for any one to put his hand on a piece of rubber of a hundred or so years old, but it may not be uninteresting to mention that I have a piece of Pará seventy years old, of undoubted authenticity. It was originally in the possession of John Hancock at the time when the sole trade done consisted in selling small rectangular pieces as pencil mark erasers. Beyond having dried up to the toughness of leather the biscuit shows no signs of deterioration. If my memory does not deceive me, the samples of Pará rubber to be seen in the museum at Kew gardens, and which were presented by Charles Macintosh & Co., bear a date in the fifties, and so cannot rank with my own specimen in the way of forming an index to longevity.

In the retail establishment, at Cardiff, of Messrs. Anderson, Anderson & Anderson, the well known London water-proofers, there is prominently a view in the window a large biscuit of Pará rubber which attracts a good deal of popular attention. The label it bears states that it is the largest ever imported, the weight being 6½ cwt, and the value £140. With regard to the value, is not clear whether this relates to the market price at the time of purchase or any other time or to its supposed intrinsic value as a museum specimen. The point, however, is not one of the first importance, what seems of rather more interest is whether the assertion of the biscuit being the largest imported can be

sustained. Not that this is said in any way to impugn the veracity of Messrs. Anderson, but it is obviously impossible for an individual or a firm to be cognizant of everything that has occurred in a matter of this kind.

THERE seems to be a prevailing impression in England that Mr. J. Fletcher Moulton, K. C., the eminent patent counsel, is connected by family ties with the rubber works at Bradford-on-Avon. This, however, is not the case, and the reports that his intimacy with the intricacies of cycle tires has been gained in the above works is quite groundless. The firm have never gone in for the tire business, mechanical rubbers, more especially with regard to railway requirements, having engrossed nearly all their attention. The one Mr. Moulton who now remains connected with the company does not take a very active part in the business, living a life of comparative quietude in the beautiful old manor house which was reproduced in the street of nations in the Paris exhibition last year as a prominent type of British architecture. The workmen of this firm being in receipt of good wages, have the local reputation of affecting superiority over such of their fellow townsmen as earn their living in the one or two textile establishments which still exist in this once famous cloth center. Certain facts which are in my knowledge with regard to this matter might prove instructive to people in high places whose limited acquaintance with people outside their own set has led them to express surprise that social distinctions exist in the community of toilers. With regard to the rubber operatives in our large industrial centers, it is probably due to financial considerations as well as to the somewhat unlovely nature of their home surroundings that little is heard of any pretension to social superiority.

NEW TRADE PUBLICATIONS.

THE new illustrated catalogue and price list of the BEACON FALLS RUBBER SHOE CO. (Beacon Falls, Connecticut) marks a new departure in the style of this company's trade publications. The pages being more than twice as large as formerly, admit of the use of larger illustrations than are usual in rubber shoe catalogues, and, in some cases, of more descriptive matter on the same page with the cuts. The make up of this catalogue is exceptionally good, in every respect, and a feature which has not been seen in any other catalogue is the illustration of the various styles in pairs, instead of showing only a single boot or shoe, as has been the custom. With such attractive pictures, it would not be surprising if, in time, people should be tempted to buy rubbers without regard to weather conditions. [7"×7". 46 pages.]

THE BOSTON RUBBER CO. OF MONTREAL, LIMITED, are sending out a handsome trade publication, in their "Illustrated Catalogue" of rubber boots and shoes, 1901-02. [3¼"×6¾". 68 pages.]

JOSEPH DIXON CRUCIBLE CO. (Jersey City, New Jersey) send us, fresh from the printers' hands, a very handsome example of up to date catalogue making, under the title "Dixon's Graphite Productions." Established in 1827 this company have become the largest miners and manufacturers of graphite in the world. This catalogue illustrates and describes all their various applications of graphite, from crucibles to "lead" pencils, besides giving views of the factory buildings and the interiors of various departments. The pages devoted to Plumbago Facings and Graphited Lubricants, particularly, ought to prove of interest in every factory. [6"×9". 77 pages.]

ROCHESTER WRINGER CO. (Rochester, New York) send us an illustrated catalogue of their self-adjusting clothes wringers.

SOUTH WALES
BRATTICE CLOTH
AND INDIA-RUBBER CO.

MESSRS. IDDON'S WORKS
AT LEYLAND.

LONGEVITY OF
PURE RUBBER.

LARGE BISCUIT
OF PARÁ.

REPORT OF A GERMAN RUBBER COMPANY.

IT may be of interest to members of the trade elsewhere to look over the details of the annual report made to the shareholders in a leading rubber manufacturing joint stock company in Germany. The one selected for this purpose is the Continental-Caoutchouc- und Guttapercha-Compagnie, of Hanover, the figures applying to the business year 1900.* The balance sheet as printed is prefaced by a general statement of the conditions affecting the industry in general and the business of the company in particular, and explanations of various entries in the balance sheet.

The average price of rubber, the report says, was higher than in the year preceding, though the advance was less marked. But it declined toward the end of the year to what might be designated as a normal level. The latter fact is ascribed to the bringing to market of unusually large quantities of rubber, attracted by the very high prices which for a while prevailed. Care must be taken, in view of the fluctuating market, in trying to avoid high prices, not to permit stocks to become too small, while on the other hand, in view of the possibility of lower prices, too large purchases must not be made at once. The other materials required were also higher during the year, particularly coal and fabrics, though solvents and chemicals were bought at practically former prices. To offset these conditions, it was not possible to advance the prices of manufactured goods except to a slight degree. The company's sales amounted to 1,500,000 marks more than in the preceding year, with a proportionate increase in the expense of manufacture. This increase in sales was in spite of the depression in the cycle industry, in supplying which the company is largely interested.

The hope is expressed that the new commercial treaties to be made by Germany will be on the same basis as now exists. It would be most desirable if all customs duties in the various countries were for a fixed term of years, for then preparations for export trade could be planned with more certainty as to results. An early cessation of the war in South Africa and the troubles in China is hoped for, since both countries promise to become good fields for the sale of rubber goods.

While the factory capacity on the whole has been sufficient, new buildings and machinery are needed, and other expenses are in prospect, to cover which, and to provide larger working capital, the directors ask for an increase in capital stock of 600,000 marks. The price agreement on rubber balls was maintained during the year. The amount paid on patent account was 53,900 marks—partly on installments due on a ball-making patent mentioned in last year's report, and partly for acquiring a patent for tiring wheels, from which much is expected. The dividends on shares of the Austrian-American Rubber Co. (Vienna) and the Lütticher Co. amounted to 9177 marks. The bills receivable are less than in several previous reports, owing to the more prompt payment of accounts. The bills payable are also less, owing to the smaller amounts of raw material, stock in process of manufacture, and finished goods on hand at the close of the year.

In accordance with the requirements of the law the material on hand has been inventoried at the lowest market rates, at which it figures, all told, at 2,275,555 marks. But in view of the fluctuating tendency of the markets, it has been deemed proper to continue the amount of the reserve—500,000 marks—set apart last year to cover any possible shrinkage in value. A

further reserve of 300,000 marks is also continued from last year, to cover any possible loss on the book accounts due the company. The goods in outside warehouses amount to more this year, because several new branches have been opened.

The directors point with satisfaction to the balance sheet, a translation of which appears herewith. In addition to the usual writing off for depreciation, 100,000 marks extra are written off the factory utensils account, in respect to a quantity of molds which are no longer of any value. Repairs to the extent of 139,053 were made during the year.

There were added to the funds for the benefit of the employés, 25,000 marks, and to the officers' pension fund 10,000 marks. For the employés' benefit was expended, as required by law, 12,185 marks for the sick benefit fund, and 10,998 marks for invalid and old age pensions. Voluntary expenditures were 17,295 marks for premiums on life insurance policies, deposits in savings banks, aid in sickness, advances in rent, etc. The directors asked for an appropriation of 45,000 marks for further expenditure for the benefit of the work people. A vacation of eight days, with full pay, was granted to employés who had worked for ten years or more, including 187 persons.

The company makes all purchases for cash. The dividend declared on the year's business was 45 per cent. on the share capital, which would be 1,080,000 marks, leaving a comfortable surplus to be carried forward.

DEBITS.

Real Estate Account.....	M 714,192.68
Building Account.....	1,159,875.23
Standing December 31, 1900 ..	1,195,747.66
Written off, 3 per cent.	35,872.43
Machinery Account.....	670,274.38
Standing December 31, 1900.....	744,749.31
Written off, 10 per cent.....	74,474.93
Factory Utensils Account.....	171,023.06
Standing December 31, 1900 ..	338,778.82
Written off, 20 per cent.....	67,755.76
Written off, extra ..	100,000.00 167,755.76
Outside Warehouses Account.....	158,794.14
Bills of Exchange Account.....	879,421.76
Cash Account.....	33,209.22
Commercial Paper Account.....	208,428.40
Insurance Account	12,066.70
Premiums paid in advance.....	
Coal Account.....	13,392.30
Material and Manufactured Goods Accounts.....	1,775,775.23
Raw Rubber.....	1,176,284.38
Materials.....	484,093.74
Finished Goods.....	487,356.30
Unfinished Goods	128,040.81 2,275,775.23
Less reserve for depreciation..	500,000.00
Accounts Current Account.....	2,314,159.17
Debits on open account	2,473,117.07
Interest bearing deposits in Banks.....	141,042.10 2,614,159.17
Less reserve for depreciation..	300,000.00
Total.....	M 8,110,612.27

CREDITS.

Share Capital Account.....	M 2,400,000.
Reserve Fund Account.....	2,025,000.
Special Reserve Fund Account.....	115,000.
Second Special Reserve Fund Account.....	143,450.
Security Account.....	200,000.
Funds Available for the Benefit of Workmen.....	237,305.93
Standing December 31, 1899 ..	234,541.33
Interest for 1900, 5 per cent.....	11,636.59 246,177.92
Disbursed in 1900.....	8,871.99
Employés' Jubilee Fund.....	72,660.70
Standing December 31, 1899.....	61,983.35
Interest for 1900, 5 per cent ..	3,420.60 65,403.95
Disbursed in 1900 ..	8,743.25
Received privately from Board of Control. .	62,660.70 10,000.00
Officers' Pension Fund Account.....	76,828.78
Standing December 31, 1899.....	76,640.73
Interest for 1900, 5 per cent ..	3,268.84 80,409.57
Disbursed in 1900 ..	3,580.79
Share Capital Expense Account.....	114,827.
Taxes, Stamps, etc.....	
Accounts Current Account.....	1,225,582.37
Creditors.....	
Profit and Loss Account.....	1,499,957.49
Net profit for 1900.....	
Total.....	M 8,110,612.27

* Last year was published in this journal [October 1—page 9] the balance sheet of another German factory—the Vereinigte Gummiwaren-Fabriken Harburg-Wien.—THE EDITOR.



METHOD OF EXTRACTING BALATA IN VENEZUELA.

[By the courtesy of *El Cojo Ilustrado*, Caracas.]

GROWTH OF BALATA PRODUCTION.

THERE are indications that the production and consumption of Balata are increasing, though at what rate it is difficult as yet to say, owing to the want of system which prevails in most quarters in the statistics kept of this commodity. Mr. Henry Souther Tufts, formerly of Boston, who was a recent visitor to THE INDIA RUBBER WORLD offices, stated that he was interested in a company employed in the collection of Balata in the section, rich in that gum, due south from Ciudad Bolivar, on the Orinoco, in Venezuela. The company has been devoted to this business alone for a year or more, with such success that more capital is to be employed. Mr. Tufts reports that the Orinoco Co., an American company holding large concessions in the delta of the Orinoco, are also devoting their attention in a large measure to the collection of Balata. It seems that the Venezuelan product is shipped chiefly to Hamburg, owing to the predominance of the German element in the trading in the Orinoco valley. But the German trade statistics do not happen to specify Balata. In the German reports of imports of "Kautschuk und Guttapercha" the following quantities have been credited to Venezuela, and in the opinion of Mr. Tufts the greater part—or possibly all—is Balata:

	1897.	1898.	1899.	1900.
Pounds.....	103,400	219,780	552,420	773,080

Meanwhile the arrivals of Balata at Rotterdam have about held their own, private statistics supplied by Messrs. Weise & Co. being as follows, and the Venezuelan sorts predominating:

	1897.	1898.	1899.	1900.
Pounds.....	497,970	524,920	324,390	407,220

Coming to Great Britain, the official statistics still include Balata in the imports of Gutta-percha, the latest available figures showing the following results (by converting cwts. into pounds):

	1897.	1898.	1899.
British Guiana.....	538,608	547,120	329,504
British West Indies.....	87,696	136,976	102,928
Venezuela.....	9,072	32,256	178,864
Colombia.....	1,568	17,248	53,200
Dutch Guiana.....	24,976	58,352	.....
Total.....	661,920	791,952	664,496

How much of these British imports were actually Balata there is no means of knowing, but presumably all, though the

figures for Colombia yet require some explanation. The amounts credited to the West Indies were first imported at Trinidad, mainly from Venezuela.

A summary of the above figures shows imports at the three centers mentioned of 1,263,290 pounds in 1897. Allowing as much for Great Britain in 1900 as in the preceding year, the total for that date would reach 1,644,796 pounds. Formerly the Guianas were almost the only sources of Balata, and figures are at hand covering the exports from those colonies very thoroughly for the earlier years of the industry. These figures show the average exports during the five years 1892-1896 inclusive:

British Guiana ..	229,824 pounds.
Dutch Guiana	185,472 "
Total.....	415,296 "

It will be seen, therefore, that the total movement of Balata is taking on greatly increased proportions. It does not appear, however, that the United States have participated in this increase. The official import returns for the fiscal year 1898-99 embraced only 21,913 pounds of Balata, valued at \$7633. But the classification is not very exact at the custom house in relation to this material, and for the year 1899-1900 the Balata item disappeared completely. From the reports of arrivals published monthly in THE INDIA RUBBER WORLD it appears that Balata was imported into the United States during the calendar year 1900 as follows (in pounds):

From	From	From	From	TOTAL.
Trinidad.	Surinam.	Great Britain.	Hamburg.	
30,500	6,900	23,000	17,291	77,691

The leading firm handling Balata, however, state that their arrivals alone were 75,000 pounds, and that probably 100,000 pounds altogether were imported.

The usual methods of collecting Balata are treated fully in THE INDIA RUBBER WORLD for August, 1899, by Mr. Joubert. It appears, however, that in Venezuela the practice of felling the trees is general, on account of the much greater immediate return, and the area over which the trees are distributed is so great that no possibility of exhaustion is admitted by those engaged in the business. By tapping, the tree can be made to yield only up to the highest point reached conveniently with a ladder, while by felling the tree the sap can be obtained sometimes for a length of 100 feet or more. Besides, under a method

used by the Orinoco Co., all the bark is stripped from the tree, after as much Balata as possible has been extracted, and whatever remains in the bark removed by a chemical process. The high price of Balata is accounted for partly by the relative scarcity of labor. As high as 28 cents per pound has been paid to collectors employed in Venezuela, though payment was made in goods. Again, the better supplies of Balata are remote from navigable streams, one company being obliged to pay 3 cents a pound (= \$60 per ton) for the haulage of Balata to the nearest boat landing.

Sheet Balata is obtained by spreading the sap in shallow pans and exposing it to the sun, the process lasting sometimes nearly two weeks. The dried sheets are $\frac{1}{4}$ to $\frac{3}{8}$ inch in thickness, and are sometimes rendered thinner by running them between rollers, the chief purpose of which operation is to render the sheets less liable to curl up. Tin plate is well adapted for Balata pans, though the natives use wooden troughs, lined with tree leaves to keep the gum from sticking to the wood.

Block Balata is formed by boiling the sap in kettles holding from 8 to 12 gallons, until it reaches the consistency of molasses candy at the stage when it can be "pulled." It is then formed into masses in size suited to the packing cases, and placed in water to cool. The boiling requires about 2 hours for the first kettleful; the proper heat having then been reached, subsequent lots are boiled sufficiently in about 45 minutes. The cooling and hardening requires 3 or 4 hours. Packing cases of wood are usually 18 or 24 by 12 inches, and 4 inches deep.

The new treatment adopted in Venezuela does not extend to the whole production from each tree, but is rather a supplementary process. That is, after the usual method of extraction, the Balata remaining in the bark is obtained by grinding the bark and removing the Balata by distillation. Only the inner bark is ground up, the rough outer bark being first cut off. The further processes are kept secret, but naphtha is supposed to be used.

The average yield of Balata milk is about 3 gallons per tree, or 27 pounds, which yields 15 to 21 pounds of Balata. Mr. Tufts mentions having removed all the bark from a felled tree, before extracting any sap, and running it between the steel rolls of a sugar mill, with the result of obtaining three times as much Balata, but it contained more impurities than that obtained by ordinary means.

LATEST BALATA REPORT FROM VENEZUELA.

IN the June issue of *Der Tropenpflanzer* (Berlin) appears a report by E. Englehardt, of Ciudad Bolivar, Venezuela, to the effect that during the year 1900 the production of Balata in that country was very largely increased, while the output from the Guianas had become relatively insignificant. The preservation of the trees, he says, has in no wise been considered. They are simply felled and allowed to rot on the ground, although the timber would be of great value if it were possible to convey it to the seaboard. The Balata gatherers are compelled to invade the forests deeper and deeper every year, every tree for miles from the original starting point having been destroyed. The only shipments are now made from Bolivar. The rate of increase has been as follows:

In 1897	650,613 pounds.
In 1898	1,043,170 "
In 1899	1,659,295 "
In 1900	2,628,784 "

It will be noticed that these figures, obtained evidently from official sources in the country of production, are much larger than those given in the preceding article, which was prepared before Mr. Englehardt's report was available. It is stated, also,

that very little sheet Balata is produced in Venezuela, the block Balata being produced more readily.

During 1900 rubber was shipped from Venezuela only in small quantities, owing to the seat of the revolution which existed for months being in the district whence the necessary labor for rubber gathering is secured. [The rubber from the Orinoco, marketed usually as "Angostura," is of the Pará type, and classified as "fine" and "coarse."] The shipments by the river Orinoco were: Fine, 114,970 pounds; coarse, 32,332; total, 147,302 pounds. However, some Venezuelan rubber, from the back districts, finds its way to the Amazon, being exported through Pará, but the total export Herr Englehardt estimates at not over 100 tons for the year. The production for 1901 is expected to be much larger—possibly 400 tons, owing to an increased interest in the business and the investment of new capital on a systematic basis.

USE OF BALATA IN GERMANY.

THE INDIA RUBBER WORLD has a report concerning the use of Balata in an important rubber factory in Germany, which consumes a considerable amount every year. It appears that the only use to which this material is put, in the factory referred to, is in the manufacture of belting. A small amount of Gutta-percha is used in the compound. There is no cover placed on the outside of this belting, so that, when completed, the general appearance is much the same as that of the oiled stitched belting commonly used in the United States for threshing machines and in mining operations. The German Balata belting is understood to be used in connection with the beet sugar industry, which is quite extensive in that country, the belting not being injured by the beet juices with which it constantly comes in contact.

AMERICAN GAS TUBING IN ENGLAND.

THE Birmingham *Daily Mail* is responsible for the statement that a "ring" of English tube makers, by excessive demands at the last bidding, forced the Birmingham gas committee to purchase American-made tubing for fittings. The United States consul adds that the British quotations were so high that an American firm succeeded in selling tubing "at a figure which no one in England could touch, and not only was the price cheap, but the quality was vastly superior." The consul reports that although the combination is not so strong this year, "so satisfactory has the American product proved that it will hardly be surprising if the gas committee," now ready for a new purchase, "asks for tenders from America."

RUBBER STAMP SIGNATURES.

THE supreme court of Connecticut has held that a letter dictated by a person, typewritten at his direction, and signed with his name by means of a rubber stamp, is a writing signed by such person, in the sense of the statute providing that in order for a case to be taken out of the statute of limitations in certain actions, by an acknowledgment or promise, the latter must be in some writing made or signed by the party to be charged thereby. The court said that since typewriting is a substitute for and the equivalent of writing, letters thus written are to be considered as having been done by the party dictating them, and that when a rubber stamp is used for signing they are to be held as having been signed by him, in the absence of any express or implied requirement of law that one shall subscribe a writing with his own hand.—*Commerce, Accounts and Finance.*

THE RUBBER TIRE INTEREST.

" 'WEMAKA' PERFECT VEHICLE TIRE."

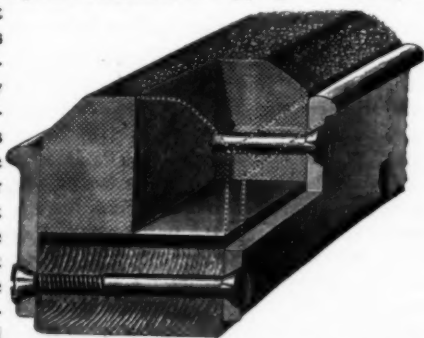
A DISTINCTIVE feature of this tire is its construction with cross stays vulcanized in the rubber itself, the tire being held in place by separate retaining wires, being independent of the cross stays, which permits the longitudinal compression of the rubber along the retaining wires. Where the rubber is compressed in the channel, the pressure of the retaining wires is distributed and equalized by the cross stays throughout the entire length and width of the tire. It is thus impossible for the tire to roll out of the channel, or for the longitudinal wires to cut through the rubber. "Wemaka" tires $\frac{3}{4}$, $\frac{1}{2}$, and 1 inch wide are made with one longitudinal wire; wider tires with two. [New Jersey Car Spring and Rubber Co., Jersey City.]



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THE STEVENS INDURATED FABRIC TIRE.

SOMETHING new in the way of tire construction appears in the "Indurated Fabric" tire, manufactured under the Stevens patents. This tire is built up of many plies of specially woven canvas, impregnated with rubber, and vulcanized together under hydraulic pressure. The fibers are disposed diagonally to the radius at any point, and only the edges of the canvas are presented to the road surface. The results claimed for this method of construction are exceptional qualities in the way of lightness, durability, and resistance to slipping. Elasticity or resiliency is not claimed for this tire, which is intended mainly for use on commercial wagons as a substitute for solid rubber or steel tires. It is secured to the wheels of light vehicles by the means of a special type of steel



channel, the sides of which are at right angles to the base. For heavy trucks and automobiles the tires are made endless, and secured to wheels by means of side flanges, as shown in the illustration. In either case, bolts pass through the channel sides and the tire, thus aiding to hold the tire in place. In the vehicles manufactured by the same company, the whole machinery equipment is spring supported, the makers claiming that this construction, relieving the tires of the duty of absorbing shocks, is the logical one. [Auto-Dynamic Co., No. 140 West Thirty-ninth street, New York.]

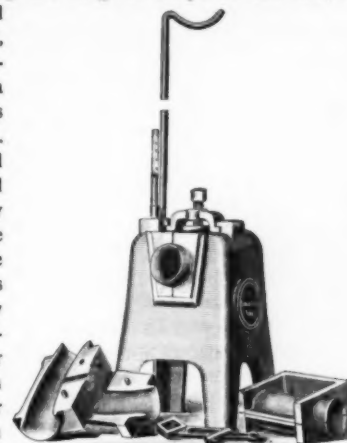
AMERICAN MADE TIRES IN BURMA.

AN advertisement prominently displayed in the daily *Gazette* of Rangoon, Burma, though printed in the British empire, in-

cludes not only the Hartford single tube tire, but also Dunlop, "Scottish" clincher, and Palmer tires, all with "American made outer covers." The latter covers are quoted at 18 rupees (=24 shillings = \$5.78) each. The presence of these Dunlop goods on the Indian market recalls the suit recently brought by the English Dunlop tire company against the related company in America for exporting such goods, alleged to be in violation of an agreement for the division of territory. The Hartford tires are listed at a trifle less each.

THE "HARTFORD" TIRE VULCANIZER.

THIS is a new vulcanizer, for use in repairing pneumatic tires. The repair is vulcanized in a sectional mold while inflated, thus preserving the original shape of the tire, or the tire may be clamped on the top of the mold, thus allowing the machine to be used as a flat plate vulcanizer as well as a sectional one. The heat is obtained from a gas flame placed underneath in the heavy metal base, and, by the arrangement of the mold, the heated air is carried completely around the tire, escaping at the top. A repair may thus be made with equal facility on either the tread or the rim portion of the tire. This vulcanizer is also supplied for use with kerosene as fuel. A thermometer accompanies each vulcanizer, so that the degree of heat may be ascertained readily. [The Hartford Rubber Works Co., Hartford, Connecticut.]



TIRE NOTES.

AMERICAN tires were very much in evidence at a recent exhibition of motor cars in Agricultural Hall, Islington, London. The "Ideal" solid carriage tire shown by J. W. & T. Connolly is that known in America as the Kelly-Springfield tire, the exhibitors being licensees for it in Great Britain. The "Star brand" solid wired on tire shown by Whittingham & Wilkin, is the same as that marketed by the Batavia Rubber Tire Co., of Batavia, New York. Another solid type shown was the "Easy" tire, which is of American origin. The New York Tyre Co., who showed a single tube tire, have the London agency of the New York Belting and Packing Co., Limited, for the latter's "New York vehicle tire."

=The Kelly Springfield Rubber Tire Co. (Davenport, Iowa), incorporated August 31, 1899, in spite of their name, announce that they have no connection with any other company. They are marketing solid wired-on carriage tires.

=Sectional Pneumatic Tire Co. (Binghamton, New York), incorporated lately to manufacture a new tire, have made some changes in their organization. The officers now are: E. C. Inderlied, president; B. A. Baumann, vice president; F. J. Baumann, treasurer; R. D. Bundy, secretary; W. L. Bundy, general manager; Charles Miller [patentee of the tire], superintendent.

THE RUBBER PLANTING INTEREST.

THE shareholders in the Commonwealth Mexican Plantation Association of Chicago are entitled once each year to select one of their number to visit and report upon the condition of the rubber and sugar plantation of the company near Tlacotalpam, Mexico. The choice fell last winter upon Wesley H. Holway, the owner of 50 shares in the company, who reported to the other stockholders: "The land is there as represented. The climate, soil, and everything are exactly as they have been represented to you. There is but one thing necessary, and that is an abundance of capital, and for that they must look to you. You sent me to Mexico to investigate the proposition for you, and I have endeavored to look the ground over thoroughly and give you an honest opinion, and if my opinion is worth anything to you, it is that the plantation plan is a perfectly feasible one. . . . So thoroughly satisfied do I feel with my investment, that I am making plans now to pay for the whole of my stock in advance"—and the report advises the other shareholders to do the same thing, in order to provide means for the earlier development of the plantation. In regard to rubber, Mr. Holway wrote: "Land on our place is now being prepared for about 50,000 to 75,000 rubber trees, which will be planted during the coming summer. We have now in the nursery about 15,000 to 25,000 rubber trees of six months' growth. These trees show a very rugged and hardy growth, and I am convinced from the different plantations that I visited, and the rubber trees that I saw growing, that it is just as easy to raise a rubber tree in this part of Mexico as it is to raise an apple tree in Illinois." This plantation is in the center of what Mr. Holway calls an American colony, where he says that between 100,000 and 200,000 rubber trees, planted within the past three years, are growing well.—One of the directors, and a prominent shareholder, of the above-named company is Maxwell Riddle, who is also general manager of the Republic Development Co., engaged in developing another rubber estate.

TEHUANTEPEC RUBBER AND COMMERCIAL CO.

[Plantation in the canton of Juchitan, state of Oaxaca, Mexico. Offices: No. 115 Monroe street, Chicago.]

INCORPORATED under Illinois laws, 1900. Will develop 1000 acres purchased from the Mexican Tropical Planters' Co. (Kansas City)—a part of the "Dos Rios" estate—of which 900 acres are to be planted in rubber, at the rate of 180 acres per year. Eight hundred trees will be planted to the acre; 600 of these (the excess) will be destroyed at the age of five years by extracting all the rubber milk, and thus making room for the development of the permanent trees (200 to the acre), from which no rubber will be taken until the tenth year. The company offer \$500 bonds, to be paid for in yearly instalments of \$100, together with \$500 worth of stock free of cost. C. C. Bartlett is president, S. M. Seator vice president, John Ware Page secretary, and S. R. Frazier treasurer. The Chicago Title and Trust Co. is trustee and depository of funds.

MEXICAN MUTUAL PLANTERS' CO.

[Plantation: La Junta, state of Vera Cruz. Offices: New York Life building, Chicago.]

This company offer profit sharing bonds, to be paid for within six years. The bonds are reported to have been nearly all sold. A letter from the head office states: "We are now planting, and at the close of this year expect to have under cultivation, about 1400 acres, containing 500,000 rubber trees, 15,000 cacao trees, and 250,000 coffee trees. The coffee trees will

bear a good crop two years from this fall. We have on our plantation about fifty buildings, eighteen of them being brick. We have a brick and tile machine, and have made this season something over 200,000 bricks, and are now erecting nothing but brick buildings." The rubber trees now being planted from the nursery are one year old and average about 6 feet high. This company plant rubber in the open, 800 trees to the acre, with the idea of largely reducing the number at four years' growth.

THE SOCONUSCO RUBBER PLANTATION CO.

[Plantation to be located near San Benito and Tapachula, department of Soconusco, state of Chiapas, Mexico. Office: No. 314 Montgomery street, San Francisco.]

INCORPORATED under California laws, October 16, 1900. George S. Fife, president; G. Beron, secretary; Charles G. Cano, general manager; Teofilo Palacios, representative director of the company in Mexico. The company owns 17,800 acres of land. It is proposed to plant rubber, one acre for every share of the capital stock sold, the same to be kept in condition until the age of production. Shares are offered at \$75, payable in installments.

AN EAST INDIA PLANTER IN MEXICO.

JAMES MAUNDER, formerly an East Indian planter, and now located at San Juan Evangelista, state of Vera Cruz, Mexico, writes to *Indian Gardening and Planting* (Calcutta), commending the culture of India-rubber (*Castilloa elastica*) to the planters of southern India as better than growing coffee. He mentions having an interest in a nursery of 500,000 rubber trees to be set out in July and August this year, when they will make another nursery of 1,500,000 plants, requiring two tons of seed. Mr. Maunder writes: "We could make rubber pay better here than any kind of planting we know of, if we only had East India coolies," and he is trying to arrange to import some.

RUBBER PLANTING ON THE AMAZON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have seen articles in your paper about rubber planting in Mexico and elsewhere, and therefore write you to ask if something could be done with capitalists in the United States to start rubber plantations in the state of Pará, Brazil, on the Amazon. Land suitable for planting rubber can be bought at a low price, from, say, 10 cents an acre up—according to locality, etc. Of course, you know that the best quality of rubber is produced on the Amazon river, and the production per tree is more than any other place. Please let me know what you think of the matter, and whether you could assist in starting a company or interesting capitalists in the scheme. If you print this, I presume that any answers could be sent to me in care of your office.

S. B.

Pará, Brazil, May 25, 1901.

PLANTING COMPANY PUBLICATIONS.

L.A. Zacualpa Rubber Plantation Co., San Francisco—La Zacualpa (the beautiful forest) of Soconusco. An Interesting and Authentic Description of a Mule-back Ride through the Quaint, Little Known Department of Soconusco, Mexico. By Mr. and Mrs. Frederick H. Colburn; Illustrated from Photographs taken by the Authors. 28 pp.

Isthmus Rubber Co. of Ubero, No. 29 Broadway, New York—The World Crying for Rubber. 40 pp.

Aztec Plantation Co. (Inc.), Chicago—A Judicious Investment. Principal Secured by Valuable Property. Dividends Guaranteed. A Perpetual Income Procured by Small Monthly Payments. 24 pp.

NEW GOODS AND SPECIALTIES IN RUBBER.

A NEW HOSE ATTACHMENT.

THE illustration herewith relates to a new hose attachment for connecting $\frac{1}{2}$ and $\frac{3}{4}$ inch hose to smooth faucets. It consists of a brass piece with a rubber washer. The attachment has only to be pushed on the faucet. The greater the pressure of water, the tighter it will hold. It cannot leak or be forced off. This useful little article is made by the Roberts Manufacturing Co., of Philadelphia, [mentioned in THE INDIA RUBBER WORLD, May 1—page 246], who are getting ready to make a line of specialties in hose goods.

The list price of the hose attachment is \$6 per dozen; extra rubber washers, \$1.30 per dozen. The entire output of the Roberts Manufacturing Co. is handled by Latta & Mulconroy Co., Nos. 1213-1215 Market street, Philadelphia.



THE "HOLDFAST" BATH SPRAY.

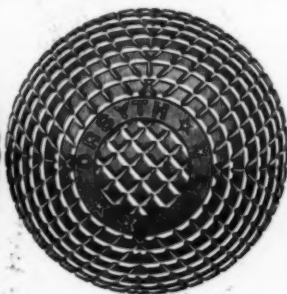
THERE have been described already in THE INDIA RUBBER WORLD [July 1, 1899—page 276] several "adjuncts to the modern bathroom," including sprays of special construction, with rubber tubing, manufactured by S. Sternau & Co., now of No. 204 Church street, New York. This firm have now introduced a new bath spray, which they call the "Holdfast," on account of a special "grip," guaranteed to stay on the faucet under all pressures. The accompanying picture is intended to illustrate the feature of construction of this grip which keeps it in place. A patent has been applied for.

THE FORSYTH GOLF BALL.

THE line of golf balls manufactured by the Boston Belting Co. has been mentioned already in THE INDIA RUBBER WORLD, but is referred to again for the purpose of introducing illustrations of two patterns which have not appeared in these pages before. These are described respectively as "Pattern



PATTERN B.



PATTERN C.

B" and "Pattern C," and are marked as shown in the accompanying cuts. The same quality of material is used in all the patterns made by the company—a pure high grade Gutta-percha. They are well molded, well seasoned, and properly painted, and are packed 1 dozen or $\frac{1}{2}$ dozen to the box.

THE NEW "PULLMAN" LAWN SPRINKLER.

ONE distinctive feature of this device is that the nozzle is screwed upon the sprinkler proper, which is so constructed that the size of the spray can be regulated by merely turning

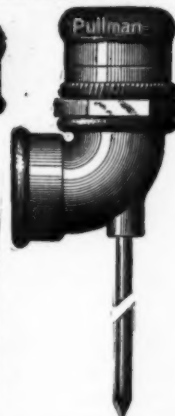


"PULLMAN" SPRINKLER.

the nozzle, screwing it up or down, and thus changing, practically, the size of the orifice. If desired, the stand can be removed, and the sprinkler mounted on a pin, for watering terraces or uneven ground where the stand cannot be set level. Or, the nozzle can be disconnected from the stand and attached directly to the hose. The "Pullman" sprinkler has no ball, spring, or other movable parts to wear or get out of order; there is not any back pressure; it sprinkles at all pressures, covering 2500 square feet at ordinary pressure. The spray covers the ground evenly, being umbrella shaped with central jet. The nozzle and other parts are made of solid brass, nickel plated, the sprinkler stand being made of cold steel. [Pullman Sash Balance Co., Rochester, New York.]



NOZZLE.



SPRINKLER MOUNTED ON PIN.

THE LATEST WATER BOTTLE.

THE illustration represents a lately patented water bottle, with a device for containing hot or cold drinks, for the sick room or for various household purposes. It comprises, in the first place, a rubber bag, with an opening in the top through which cracked ice or hot water may be introduced. In one side of the bag a slit is cut, and a pocket is formed beneath this slit, extending to the bottom of the bag, in which a bottle may be inserted, allowing the heating or cooling material in the bag to entirely surround the bottle and act on the contents of the latter. When it is desired to heat milk for an infant, the nursing bottle is inserted in the pocket and hot water is poured into the neck of the bag, warming the milk to the proper temperature in a few moments. When used for cooling champagne or other drinks the cracked ice is placed in the bag, and by the time it has melted the liquid will be found agreeably cool. The patent



is for sale by the inventor, Charles T. Bradshaw, No. 21 North Thirteenth street, Philadelphia.

THE HOOVER BREAST PUMP.

IN respect to the article represented in the accompanying illustration, it is claimed that it is simple in construction and easy to operate; that it has a continuous draw, and that it is free from any tendency to cause irritation. It has won the commendations of physicians as a breast pump and also as a nipple developer. While the amount of rubber used in each pump is not large—only the tubing which connects the glass with the metallic spool—yet the rubber feature is quite important, and the total consumption of the elastic material in the whole output of pumps is considerable. This article retails at 75 cents. [Standard Manufacturing Co., Waterloo, Iowa.]



MORRISON SURGICAL PADS.

THESE pads are constructed with an inflatable air cushion which is attached in such a manner that there is no space or crevice between the cushion and the body part of the pad. This is a very important feature, as the cushion lies flat when deflated and can be sterilized easily and cleaned thoroughly. The body of the pad is attached to the center of the air space, instead of the bottom, and because of this the cushion can be



used on either side, which is a great advantage, as the wear is uniform on both sides. This tends to increase the durability of the pad. Another distinctive feature is the detachable sleeve, which permits more thorough cleaning than could be done with the sleeve permanently attached to the pad. These cushions are made of the best tan rubber and cost little more than the regular style of pads. [Davidson Rubber Co., No. 19 Milk street, Boston.]

SWIMMING GLOVES.

THIS new patented article is made of rubber, with webs between the fingers, as shown in the illustration. Among the ways in which the glove may be utilized are, first, as an aid to beginners, as a means of facilitating the movements in swimming, since by the greater displacement of water than by the bare hand, it will enable one to swim faster and longer. Attention is called by the inventor to the duck's swimming, while the hen cannot, because the duck has webbed feet. It will also be an aid to life savers, and contribute to the sport of water polo. [F. R. Madeira,



No. 207 Broadway, New York.]

"LA FAVORITE" LANDING MAT.

THIS recently patented device differs from other landing mats for use in fire engine houses in respect to its greater elasticity, afforded by the



confined air in the numerous air tubes on the inner side of the mat. Each of these tubes or cells is provided with a rubber cap, one of the illustrations herewith showing a view with one of the caps removed, to indicate the method of construction of the pad.

Another point of novelty relates to the method of adapting one of these mats to a landing pole of any size. It being desirable that the mat shall fit the pole closely, in order that it may remain in position on the pole when pushed up to allow the floor to be cleaned, or for any other reason, it has been customary to have landing mats made to order, based upon the diameter of each pole to be fitted. In the "La Favorite," on the other hand, the opening in the center is made of uniform size in all mats. There is furnished, however, a bushing to fit in this opening, and of such inner diameter as will fit the pole for which any given mat is desired. These mats are in satisfactory use in the fire departments of many large cities. [La Favorite Rubber Manufacturing Co., Paterson, New Jersey.]



THE "PLUG" RUBBER HEEL.

THE distinctive feature of this new design in rubber heels is a "plug" of duck, the whole being vulcanized together in such

a manner as to prevent the plug from working out of place. The special claim made for this form of construction is that it prevents slipping. It may be mentioned that the same idea has been taken up in the manufacture of horse shoes and solid vehicle tires, the fiber being substituted for rubber to prevent the slipping of horses and vehicles. The exclusive jobbers



for New England of the new heel are the Batchelder & Lincoln Co., No. 96 Federal street, Boston.

HEARD AND SEEN IN THE TRADE.

SPEAKING of the present condition of the India-rubber industry, a manufacturer of a good many years' experience said: "I have never seen anything like the recent growth of new demands for rubber. Every day there is a call for some article in rubber, involving new uses. The total volume of trade is growing, too. There is room for half a dozen new rubber factories in this country to-day. The manufacturer can take his pick of the orders offered him now, to a greater degree than ever before, so that it only requires good judgment to be able to make money in the rubber business under existing conditions."

* * *

"THERE is one change in trade methods," said the same manufacturer, "that marks a great improvement in the rubber trade. It is the tendency to cut down the extent to which goods have been shipped on consignment. So long as goods in stock don't belong to the dealer, it is not in human nature for him to give them the same care as when the goods belong to himself. Under the old method consigned goods were piled up in stock without regard to the real needs of the trade; bales and rolls of goods were cut into recklessly, in filling orders, without regard to what became of remnants; and as a rule little care was given to keeping goods in condition. Any loss, of course, fell on the manufacturer. But let a dealer or jobber buy his goods, and it makes all the difference in the world in the way those goods will be cared for."

* * *

THERE has been so much said lately about the relative merits of solid and pneumatic tires for automobiles that many people seem to have lost sight of the fact that these are not the only types of rubber tires. Not that any other kind is likely to be met on city streets, but on the country roads of such districts as Long Island and the suburban portions of New Jersey, it is asserted that a good demand exists for cushion tires for light vehicles. One carriage firm in New York is reported to have determined to confine its attention altogether to vehicles for the country trade, fitted with cushion tires.

* * *

NEW YORK was visited recently by a Danish chemist—a young man who, though only twenty-four, has found time to give a good deal of attention to India-rubber. He attended to his business expeditiously and without flourish of trumpets, and doubtless left richer than when he came. Among other things, he sold to a leading rubber manufacturing concern his patents in Canada and United States for a new process for reclaiming rubber, which process has been patented also in all the European countries and in Japan. The writer is assured—though not by the inventor himself—that the young Dane may reasonably expect to profit, by his discovery, to the amount of hundreds of thousands of dollars.

* * *

THE contents of a Chinese store in New York, or any other American city, are decidedly foreign in character, as a rule. But of late one may see displayed prominently in nearly every such store clothes wringers of genuine American manufacture. Indeed, the demand for these articles has become so general among Chinese laundrymen in this country that the American Wringer Co. have added to their list a special make for this trade. Many of the wringers are retailed at the company's stores, besides which there are Chinese merchants throughout the United States who do a considerable jobbing trade in the wringers. The Chinese make good customers, buying as a rule for cash. But the demand for wringers in China has not

grown proportionately. It seems that it is only when laundering white people's clothes that the Mongolian laundryman has any use for modern appliances.

* * *

INQUIRY was made, during one of the hottest days recently, in a rubber store in New York, why rubber boots were displayed so prominently in the windows. "We retail about as many boots at one season as another," replied the proprietor, "because people at work in the water require rubber boots, whether in winter or summer. Besides, we wholesale and job rubber boots all summer for the coming winter trade."

* * *

THE few rubber manufacturers on the Pacific coast have at least one advantage. When any crude rubber reaches San Francisco by steamer from southern Pacific ports, the competition among buyers is not so great but that it may sometimes be secured at very low prices. An Eastern rubber man while in San Francisco recently, heard of a lot of rubber just arrived, which was offered at a price which would have enabled him to ship it by rail to New York, at a total cost less by 10 cents a pound than the quotation here at that time. But before he could reach the seller the lot had been taken by a local manufacturer.

* * *

COTTON duck made for carriage cloths has to be finished weighing a certain number of ounces to the running yard and of a certain count. The width used principally is 50 inches, although there is a considerable call for 36 inches, and a limited demand for 54 inches. The same applies to drills as well as ducks. The cotton goods are bought generally in the gray and colored to suit by the carriage cloth manufacturer. The color principally in demand at present is green, although goods are made also in blue, brown, drab, and maroon.

SOME WANTS OF THE RUBBER TRADE.

[169] **A** MANUFACTURER of rubber specialties writes: "Will you kindly inform us where we can secure grummets, such as are used in the tops and tails of water bottles?"

[170] "We wish to get the address of a manufacturer of rubber castors."

[171] A correspondent in the Indian Territory sends a drawing from which the following cut has been made, and writes:



"This is supposed to be a hair curler. Can you tell us where we can secure the article?"

[172] "Kindly inform us who are the manufacturers of rubber nails or spikes, such as are used in lodge work."

[173] The rubber goods house of Hill & Müller, Mannheim, Germany, advise THE INDIA RUBBER WORLD that they are buyers of large quantities of American gas tubing, and that they desire offers from reliable manufacturers.

[174] "We have been thinking something of installing a number of linen hose machines. Can you furnish us with the address of a manufacturer of the same?"

[175] A dentist writes: "Is there a substitute for rubber made from petroleum, asphalt, or any other material, that can be vulcanized or hardened like hard rubber?"

EXPORTS OF AMERICAN RUBBER GOODS.

THE total exports from the United States of goods classed as "Manufactures of India-rubber" during the fiscal year beginning July 1, 1900, up to the end of April, were:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-March...	\$391,862	\$641,855	\$1,273,876	\$2,307,593
April, 1901...	56,223	21,116	158,248	235,587
Total.....	\$448,085	\$662,971	\$1,432,124	\$2,543,180
1899-1900...	439,220	329,686	1,133,094	1,902,000
1898-99....	(a)	214,330	1,194,397	1,408,727

(a) Not separately reported prior to July 1, 1899.

The number of pairs of rubber footwear exported was 1,349,063, against 597,614 pairs for the same period last year, and 393,830 pairs in ten months of 1898-99.

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.
\$278,438	\$387,397	\$364,856

DISTRIBUTION OF RUBBER EXPORTS.

THE manufactures of India-rubber exported from the port of New York during the four weeks ended May 28, 1901, were of less value than during the preceding month. They were destined as follows:

Great Britain.....	\$16,026	Cuba.....	6,979	Venezuela.....	218
Germany.....	8,640	British W. Ind.	548	Australia.....	14,204
France.....	3,070	Danish W. Ind.	12	New Zealand.....	4,030
Belgium.....	251	Haiti.....	12	Philippines.....	1,036
Holland.....	1,875	San Domingo.	102	Hongkong.....	390
Italy.....	100	Dutch W. Ind.	26	Japan.....	1,754
Portugal.....	125	Argentina.....	119	British E. Ind.	347
Denmark.....	2,257	Brazil.....	521	Dutch E. Ind.	150
Nor'y-Sweden.	1,838	Chile.....	144	British Africa.	1,356
Newfoundland.	81	Colombia.....	663		
Mexico.....	2,469	Ecuador.....	184	Total...	\$70,216
Central Amer.	551	Peru.....	138		

Some other exports during the same month were:

Dress Shields.—To Southampton \$13,624; Liverpool \$787; Glasgow \$624; Hamburg \$7291; Rotterdam \$2,9; Australia \$1655; Other countries \$658; total \$20,938.

Clothes Wringers.—To Great Britain \$2756; Germany \$1807; Holland \$1033; Denmark \$1223; Other Europe \$826; Other countries \$1098; total \$8743.

India-rubber Thread.—To all ports \$6190.

Reclaimed Rubber.—To Liverpool \$4311; Manchester \$1050; Glasgow \$5064; Hull \$1777; Genoa \$1125; Havre \$6097; Hamburg \$350; Riga \$450; Other Europe \$360; Japan \$1740; total \$22,324.

Besides which there were exports of rubber cement, dental goods, dental material, electrical material, etc., containing rubber.

BELGIUM RUBBER GOODS TRADE.

THE movement of rubber manufactures has been as follows, the figures denoting values in francs:

	1898.	1899.
Imports.....	985,234	1,169,549
Imports (in transit).....	2,810,105	3,127,623
Total imports.....	3,795,339	4,297,172
Exports.....	898,529	667,635
Exports (in transit).....	2,810,105	3,127,623
Total exports....	3,708,630	3,795,258

Imports in 1899 were chiefly from Great Britain, Germany, and France, the countries being named in the order of the importance of the trade with each. Exports were mainly to France, Great Britain, and nearly one-half to various countries in small amounts. Of the goods "in transit" 1,606,176 francs worth were credited to Germany, and 1,124,714 francs worth went to Great Britain.

DUTY ON ELASTIC BRAIDS.

THE rate of duty upon imports of elastic braids made of cotton or other vegetable fiber and India-rubber, under the tariff act of July 24, 1897, has finally been construed by the United States circuit court for the southern district of New York. The decision rendered by Judge Townsend, sustains the contention of Appraiser Wakeman, of New York, that in assessing the duty, the cost of fabrication should be considered. The importers claimed that the elastic braids should come under the India-rubber schedule, under paragraph 449, at 30 per cent. *ad valorem*, as goods in which India-rubber is the component material of chief value. The board of general appraisers, in 1899, held that while the rubber contained in the elastic braids, in the condition of thread, is of greater value than the cotton component, considered as thread, yet when the labor and other expenses incidental to converting the two kinds of thread into the finished product are analyzed, about nine-tenths of the cost is applied to the textile threads, making the cotton or other fiber the component of chief value. Protests against this decision were carried to the circuit court, with the result above recorded. Such imports, therefore, if the fiber is of cotton, are liable to duty at 60 per cent. *ad valorem*, under paragraph 339 of the law of 1897, and if of silk, at 60 per cent. *ad valorem* under paragraph 390.

During the controversy a delegation of customs examiners from New York, including some of the board of general appraisers, visited mills in Massachusetts to investigate the methods of manufacture of elastic braids, reaching the conclusion that Appraiser Wakeman was right. The decision by the appraisers was summarized in THE INDIA RUBBER WORLD [March 1, 1899—page 155], including the testimony of Mr. Joseph W. Green, of the Glendale Elastic Fabrics Co., and of an English manufacturer.

The New York *Sun* says: "There are now 3500 cases of elastic braid importations and 3000 non-elastic braid cases awaiting adjustment on the decision of the court in favor of the 60 per cent. tax rather than one of 30 per cent. The amount involved annually to the government is in the hundreds of thousands of dollars, and the court's decision will save the government this amount."

VENTILATION OF A NEW MILL.

THE newly completed Olympia mills, at Columbia, S. C., designed by W. B. Smith Whaley & Co. (Boston) have been equipped with a somewhat novel arrangement of the blower system for heating and ventilating. Two 14 feet Sturtevant fans force the unheated air through horizontal underground ducts extending along both side walls. Branches from these ducts connect with vertical flues built in the side walls, and deliver air to the various floors. Instead of the usual coil arrangement at the fan, Sturtevant standard corrugated sectional base coils are placed in the main ducts where the flues connect with them. This arrangement was used in order that the amount of heat supplied to any part of the mill building could be controlled without affecting the air supply. It also saves the loss of heat in the main ducts in the basement, and permits the use of slightly smaller ducts on account of the lower temperature of the air. All apparatus for this system was furnished by the B. F. Sturtevant Co. (Boston.)

INDO-CHINA RUBBER.—The exports from this quarter during 1900 amounted to 756,680 pounds, against 116,160 pounds in 1899 and 19,800 pounds in 1898.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED MAY 7, 1901.

- N**O. 673,570. Process of refining characteristic gums of Gutta-percha. Edwin F. von Wilmowsky, Boston.
 673,672. Life preserver. Hachig A. Ayvad, Hoboken, New Jersey.
 673,776. Toy balloon. Marcus Kavanagh, Chicago.

ISSUED MAY 14, 1901.

- 673,872. Support for the neck and head. Charlotte von Hillern-Flinsch, Hamburg, Germany.
 674,022. Vehicle tire. Frank A. Seiberling, Akron, Ohio.
 674,060. Apparatus for vulcanizing articles of caoutchouc. Henri Hamet, Paris, France.
 674,251. Automatic tire inflating apparatus. Tillman H. Anderson, Indianapolis, Indiana.
 674,256. Traction tire for vehicles. Howard M. DuBois, Ashburn, Pennsylvania.
 674,333. Tire for wheels. William J. Daningburg, New York city, assignor of one half to Frank M. Eldredge, Brooklyn.

ISSUED MAY 21, 1901.

- 674,436. Pneumatic tire. Wallace Xovintree, Mays Landing, New Jersey, assignor to John A. Wiedersheim, trustee, Philadelphia.
 674,478. Solid rubber vehicle tire. Frank A. Seiberling, Akron, Ohio.
 674,500. Rocker cushion. Joseph H. Fink, Kansas City, Missouri.
 674,636. Heel cushion. James Priestman, New York city.
 674,653. Horseshoe. William E. Messacar, Albion, Michigan.
 674,655. Non slipping horseshoe. John Patrick, Chicago.

ISSUED MAY 28, 1901.

- 674,872. Material applicable for valve packing or other purposes. Arthur Nixon, Manchester, England.
 675,064. Vehicle tire. Albert De Laski, Weehawken, New Jersey.
 675,164. Pneumatic tire and method of making same. Theron R. Palmer and Frank X. Berrodin, Erie, Pennsylvania, assignors to Pennsylvania Rubber Co.

DESIGN PATENTS.

- 34,475. Water bag. Christian Wm. Meinecke, Jersey City, New Jersey. May 7, 1901.
 34,557. Golf ball. Sydney John Cooper, Ealing, England. May 21, 1901.

TRADE MARKS.

- 36,430. Insulating materials for electrical purposes. Marshall Brothers, Yorklyn, Delaware, "Insulite." May 14, 1901.
 36,431. Pulley exercisers. Alexander Whitely, New York city. "Alex. Whitely." May 14, 1901.
 36,436. Elastic rubber bands. The B. F. Goodrich Co., Akron, Ohio. May 21, 1901.
 36,471. Certain named boots, socks, rubber goods, wool goods, and clothing. Mishawaka Woolen Manufacturing Co., Mishawaka, Indiana. May 28, 1901.
 36,481. Certain named substances of the nature of rubber. The Standard Paint Co., New York city. May 21, 1901.

ENGLISH PATENT RECORD.

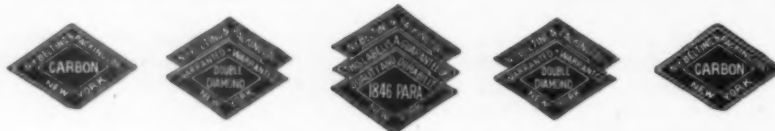
APPLICATIONS.—1901.

8255. Charles Edward Masterman, Birkbeck Bank chambers, Chancery lane, London. Method of charging pneumatic tires. April 22.
 8388. William Frederick Williams, 53, Chancery lane, London. Improvements in tires and tire covers. April 23.
 8437. Ernest Alexander Claremont, 4, Bloomsbury square, London. Improvements in the manufacture of vulcanized electric cables. April 24.
 8589. Robert Isherwood, 8, Quality court, Chancery lane, London. Improvements in pneumatic tires for carriages and bicycles. April 26.
 8761. Johann Jakob Ziegler, Baden, Germany. Elastic bearings for bicycles. April 29.
 8832. Herbert Easton, Teddington. Improvement in pneumatic tires. April 30.
 8897. Oliver Imray, Birkbeck Bank chambers, Chancery lane, London. Improvements in the manufacture of pneumatic tires. [Frank Albert Wilcox and Theron Risser Palmer, United States.] April 30.

8996. Carl Wenigmann, 18, Buckingham street, Strand, London. Improvements in teats for feeding bottles. May 1.
 9153. Robert Mark and William Mark, Brompton, Cumberland. Improvements relating to prevention of punctures to pneumatic tires. May 3.
 9230. James Best, Glasgow. India-rubber ring for umbrellas. May 4.
 9249. Dermot O'C. Donelan, Dublin. Improvements in pneumatic tires for cycles and vehicles. May 4.
 9361. Charles Reeves, 55, Chancery lane, London. Improvements in coin freed tire inflating machines. May 6.
 9588. Lucas Stadler, 45, Southampton buildings, Chancery lane, London. Improvements in tires for vehicles. May 8.
 9627. John Wheelodon, Sheffield. Improvements in protecting pneumatic tires from puncture. May 9.
 9655. William Frederick Hinton, 8, Quality court, Chancery lane, London. Improvement in pneumatic tires. May 9.
 9665. John Albert Score, 48, New Kent road, London. Improved method of attaching tire covers to rims. May 9.
 9900. May Rath, Anerley, Surrey. Improvements in pneumatic tires for vehicles. May 13.
 9920. James Thame and The Southwestern Rubber Co., Limited, 1, Queen Victoria street, London. Improvements in the treatment of crude rubber. May 13.
 9930. William Thomason Goud Ellis and James Grant, Glasgow. Improvements in tires for cycles and vehicles. May 14.
 10,012. Ambrose Samson, Finsbury, London. Improvements in cushioned wheels. May 14.
 10,082. Ernst Matschull, 65, Chancery lane, London. Improvements in covering pieces for injured parts of pneumatic tires. May 15.
 10,225. Richard Finch and George Evans, 22, Southampton buildings, Chancery lane, London. Improvements in relation to pneumatic tires. May 16.
 10,253. John Almond and Anna Eliza Almond, Manchester. Improvements in apparatus for removing India-rubber from the covers of tires. May 17.
 10,418. John Hambleton Kitchen, 36, Chancery lane, London. Improvements in apparatus for inflating tires. [Joseph Cowper Booth, Victoria.] May 20.
 10,467. Robert John Baldrey, Ootacamund, Nilgiris, India. Non-collapsible, polytube, pneumatic tire, for bicycles and vehicles. May 20.
 10,639. William Birch and Frederick William Cooper, Sheffield. Flap frames for vertical air shafts and horizontal air grates. May 23.
 10,658. Harry Grayson, Manchester. Device for protecting inner tubes of tires from puncture. May 23.
 10,774. James Fowler Catley, Beeston Hill, Leeds. Tire repairer. May 25.

PATENTS GRANTED.—APPLICATIONS OF 1900.

397. Swimming appliances (webbed glove). Emerich of Varga and Zilahi, D., Budapest, Hungary. January 6, 1901.
 499. Machine for molding bottle stoppers. MacLean, A. B., Leeds, Yorkshire. January 8, 1901.
 527. Non-puncturable pneumatic tire. Despaiguet, J., Salignac (Gironde), France. January 9, 1901.
 592. Tire tread, and method of attaching. Hunt, C. W., West New Brighton, New York. January 10, 1901.
 963. Soft rubber trusses. Boulton, A. J., 111, Hatton garden, Middlesex. [Browne, R. W.; Washington, District of Columbia.] January 16, 1901.
 1102. Life belts. Thomas, H. J., Rosslyn, Essex. January 17, 1901.
 1154. Tire shield. Tripp, J. S., Rochester, New York. January 18, 1901.
 1461. Pneumatic tire. Jensen, P., 77, Chancery lane, Middlesex. [Gottschalk, G. H., and Possell, G. W.; Milwaukee, Wisconsin.] January 23.
 1649. Self inflating pneumatic tire. Morgan, C. G., 13, King William street, London. January 25, 1901.
 1658. Exercising apparatus. Ryan, M. B., 17, St. Germans road, Forest Hill, London. January 26, 1901.
 1681. India-rubber horseshoe. Hahn, A., No. 356 Grand street, New York. January 26, 1901.
 2279. Horseshoe pads. Prince, P. P., 71, rue Desjardins, Angers (Maine et Loire), France. February 5, 1901.
 2341. Devulcanizing India-rubber. Boulton, A. J., 111, Hatton garden, London. [Marks, A. H., Akron, Ohio.] February 6, 1901.
 2378. Soles for boots and shoes. Reinecke, F., Magdeburg, Germany. February 6, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Rubber Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

ECOE SIGNUM.



THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

The Mechanical Rubber Company, CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,
If you are in search of good goods at fair prices,
If you cannot get quick deliveries,
If you are not getting fair value for your money,
IN ANY EVENT,

SEND TO US FOR SAMPLES AND
QUOTATIONS.
WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.

Mention the India Rubber World when you write

DEATHS IN THE RUBBER TRADE.

LEWIS ELLIOTT is dead. The name will be recalled by some rubber men who have spent well nigh a lifetime in the trade, as that of a successful factory superintendent as far back as they can remember. Not only did Lewis Elliott make a high record for efficiency in the Candee rubber factory, which was in his charge for more than forty years, but in every capacity in life he was known to his fellow citizens in New Haven for his steadfast integrity, and he was distinguished for his intelligent interest in the welfare of the city.

Mr. Elliott was born seventy-seven years ago in the city of Manchester, New Hampshire. His first effort at self support was at Hartford, Connecticut, where he worked at shoe cutting for H. H. Freeman. Like the normal venturesome New England boy, he had a taste for the

sea, and more than once sailed on coasting vessels along the Atlantic, working his way. Once he crossed the ocean, and on his return was offered a position as second mate of the ship, but by this time he had seen enough of the sailor's life to prefer some business ashore. He learned to make leather shoes by hand—then an important industry.

In 1850 young Elliott became connected with the factory of The L. Candee & Co., who, since 1842, had been making rubber shoes, in a small way, at Hampden, Connecticut. The processes were very crude, as the business was in every way a new one. Mr. Elliott used to cite an instance of this crudeness. The Pará rubber, softened by camphene, was ground in a sort of pug mill before it was possible to apply it to the cloth. At the time the young man came to the company they had just bought the land upon which their present plant stands, in New Haven. Their first move was to erect a factory building, in which rubber shoes were made. "We were not as well equipped in the way of machinery as we are to-day," remarked Mr. Elliott forty years later. "Our plan for frictioning was to friction one side with rolls, and then coat the other by means of a huge knife spreader. When that side got dry, however, it did the work and the shoes sold very well."

In 1856 the Hampden plant was abandoned and the whole business of the Candee company concentrated at New Haven. From that time on, for twenty-one years, was one steady record of progress. Mr. Elliott, who had already become superintendent, had complete control in the mill, and kept adding buildings, machinery, and operatives, and was constantly on the alert for new and more economical processes. November, 1877, brought an interruption in the shape of a fire that reduced the whole plant to ashes. In a short time, however, it was rebuilt

and arranged better than before. A matter of deep regret to Mr. Elliott in connection with this fire was the loss of his collection of curiosities in the way of early and forgotten shapes, lasts, etc. Mr. Elliott was an indefatigable worker. For many years it was his rule to go to the factory at 5 A. M., and often he did not leave it until after midnight. What he was to the Candee company, its splendid plant and its well made goods testify. On January 1, 1894, Mr. Elliott resigned from the more active and responsible duties of his position, and gradually ceased to maintain a connection with the factory.

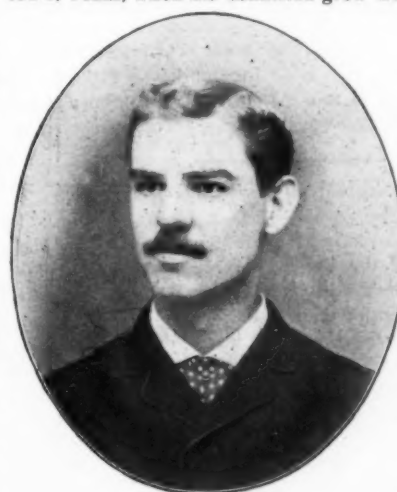
Mr. Elliott served the city of New Haven efficiently for several years as a fire commissioner, the board of which he was a member having been an exceptionally good one, and in other ways he manifested an interest in the general good. His latter years were spent quietly, and the end came on June 12, as he lay at his home, in the afternoon. He is survived by a son and two daughters, all now residents of New Haven—Lewis A. Elliott, formerly a druggist in that city; Mrs. James J. Johnston, whose husband is in the employ of the Candee company; and Mrs. George T. Fifield.

JOHN C. HARDMAN.

JOHN C. HARDMAN, treasurer of the Hardman Rubber Co., of Belleville, New Jersey, died on June 6, at St. Barnabas's hospital, in that town, as the result of complications following an operation to which he had submitted a few days before. Mr. Hardman, who had been in failing health for the past year, left Belleville on a business trip through the South and West in the latter part of April and had gone as far as San Antonio, Texas, when his condition grew worse. He went to St.

Louis, and, when he did not improve, decided to return immediately to his home in Belleville. By the advice of his physician he was taken to the hospital, where, after a few days, his life came to an end.

Mr. Hardman was born, 45 years ago, at Taunton, Massachusetts, where he became interested in mechanical employments. In time he became manager



JOHN C. HARDMAN.

of a large watch case manufactory in Philadelphia. Later he joined the Riverside Rubber Co., at Belleville, established by his brother, James Hardman, Jr., in 1878, where, for ten years, and until his death, he was manager of the sales department. Recently the company adopted the name Hardman Rubber Co. He was one of the most popular men in the rubber trade, and had many friends in business circles, wherever he was known.

Funeral services were conducted at the late residence of Mr. Hardman on Saturday afternoon, June 8, by the Rev. Cornelius S. Abbott, rector of Christ Episcopal church, at Belleville, and

the interment was at Mt. Pleasant cemetery. The honorary pallbearers were George M. Allerton, of New Haven, Conn., and Henry C. Burton and George F. Hodgman, of New York—members of the rubber trade; Andrew Schneider, of Newark; John H. Eastwood and A. H. Osborne, of Belleville. The active pallbearers were heads of departments in the rubber works: Thomas Murray, J. H. Hand, George L. Conover, R. S. Westervelt, Charles Hellweg and John Trescher.

REGARDING TITLES TO RUBBER LANDS.

THE first consideration, where one contemplates going into the cultivation of India-rubber or other tropical products in Mexico, naturally relates to the land. The greatest and perhaps the first difficulty that besets the purchaser of lands in Mexico is in the matter of titles. Many titles are imperfect and require great expenditure of time and money to overcome the difficulties of perfecting the same; and even should the titles be good, it requires about the same expenditure to prove them so, unless purchases are made from parties or a corporation who have been put in judicial possession of their lands. The Mexican Coffee and Rubber Growers' Association has been put in judicial possession of its holdings of over 100,000 acres by the Mexican government, and its titles have been passed upon by the ablest lawyers in Mexico, who have pronounced them absolute and perfect, and purchasers can therefore enter into immediate possession of their purchases. Another advantage had by purchasers from the Association is that the Association is developing several large plantations for itself and maintains a storehouse from which supplies may be drawn. All these facilities the Association offers to the purchasers of its lands. This is vastly different from going off into a wilderness, far from civilization and with no accessible base of supplies. The lands of the Association were chosen over three years ago by a committee which visited the whole of tropical Mexico, on account of their great fertility, their healthfulness, and their easy access to the markets of the world. Rubber grows wild here, and its cultivation has been begun on these lands under conditions which give promise of great success.

STRIKE IN A GERMAN RUBBER FACTORY.

THE women employed in the shoe department at the Harburg works of the Vereinigte Gummiwaren-Fabriken Harburg-Wien left their work before noon on March 19, without any previous notice of their intention to do so. Director Louis Hoff, on inquiring the cause, was told that, on account of a change in the finish in certain styles, it was impossible to earn as much money as formerly. He advised the employés to return to work, promising that an advance in wages would be made when he could confer with Director Maret, then absent in Austria. They did return to the factory in the afternoon, but remained idle while a committee of five called upon Director Hoff to demand a general increase in wages. This was declined, in the absence of Senator Maret. The workwomen did not appear at the factory on the next day, but instead held a meeting under the leadership of a well known socialist who is not an employé of the rubber company, at which resolutions were adopted, demanding more pay and the discharge of the employés who remained at work. Meanwhile 200 men, whose work was dependent on the stock prepared for them in the shoe department, had to be laid off.

After several meetings, and conferences with the management, at which, although the strikers were courteously received,

their demands were for the most part refused, a general strike in all the departments was ordered on May 18. In the *interim* the company had issued a bulletin requiring the employés who had left their work in the shoe department to return not later than May 14, or consider themselves permanently discharged. For those who returned, permanent employment was promised, with protection against any violence from those who remained out. After the general strike was ordered, the company declined further to recognize the employés' committee, charging them with bad faith, and giving notice that former employés asking for work would receive the same treatment as new comers, of whom 150 had been employed. The strikers then sought the intercession of the mayor of Harburg, in the interest of (1) an advance in wages on canvas shoes; (2) the reinstatement of all the former employés; (3) the discharge of those who remained loyal to the company; and (4) the discharge of all the new employés.

The rubber company refused to recede from their position, in which they were supported by the Verein der Arbeitgeber für Harburg und Umgegend (Society of Employers of Harburg and Vicinity), which offered a reward of 100 marks for information leading to the conviction of any person interfering with those who returned to work. On May 29 the company was running all its departments, with 828 people employed, and expecting soon to have a complete force. More recent reports are to the effect that the strikers were still holding meetings, while the company were adding to the number of people at work. The *Gummi-Zeitung* predicts the ultimate failure of the strike.

OTHER NOTES FROM EUROPE.

PIRELLI & Co., the Italian rubber manufacturers, have arranged to establish in Spain a branch of their submarine cable works, in preference to paying the Spanish duty on imports. Their capital will be increased from 5,500,000 to 6,500,000 lire. The net profit in the last business year amounted to 550,878 lire, and a dividend of 10 per cent. was declared.

=Herr S. Seligmann, one of the directors of the Continental Caoutchouc and Gutta-percha Co. (Hanover, Germany), celebrated recently the twenty-fifth anniversary of his connection with that company. Herr Seligmann was formerly in the banking business from which he retired to take the financial management of the Continental company, in which he has achieved a signal success, working in conjunction with Herr A. Prinzhorn, the technical director of the rubber works.

=Isidor Frankenburg, Limited (Manchester), in addition to their extensive mackintosh and cable making branches, are taking on the production of rubber canvas shoes on a large scale.

=Under the name Verband Österreichischer Kautschukwaren-Fabriken, the rubber manufacturers of Austria, at a meeting in Vienna on March 14, formed an association for their mutual benefit, particularly with a view to securing desired legislation. A. Vogl, a director in the Vereinigte Gummiwaren-Fabriken Harburg-Wien, was elected president; Karl Kulemann, director in Österreichisch-Amerikanischen Gummi-Fabriks A.-G., Vienna-Britensee, vice president; and Wilhelm Reithoffer, of the firm of Josef Reithoffer's Söhne, Vienna, secretary.

=The Austro-Hungarian consul general in Cape Town advises Austrian waterproof manufacturers that the Cape is a splendid place for the disposal of such goods.

=The directors of the Vereinigte Hanfschlauch und Gummiwaren-Fabriken, of Gotha, Germany, recommended a dividend of 9 per cent. for the last business year, against 7 per cent. for the year preceding.

NEWS OF THE AMERICAN RUBBER TRADE.

TUSCARORA RUBBER CO.

WORK is reported to be in progress on a three story brick factory building, 48x100 feet, at Beach City, Ohio, in the central part of the state, to be operated by the company above named. This company was originally the Valley Rubber Co., with a factory at New Philadelphia, Ohio, which was burned down shortly after its completion. The company was reorganized at New Philadelphia, since which time various suggestions have been made with regard to removing to Akron and other points. The location at Beach City has been decided upon in view of a bonus from the citizens at that place. Those mentioned in connection with the enterprise are Dr. L. S. Schweitzer, who was president of the original company; D. O. Webster, S. M. Anderson, and William Coney. Dr. Schweitzer is to be business manager and J. D. Martz traveling salesman. The capital is reported at \$25,000, and it is proposed to manufacture tires and specialties.

BLACKSTONE RUBBER CO.

REGARDING this new company, reported in the last INDIA RUBBER WORLD as having been incorporated by parties at Providence, R. I., under Maine laws, one of the incorporators writes to us: "In answer to your inquiry we would say that this company has been formed to manufacture the Harris patent leather soled boot. The parties behind the company are prominent rubber people, but do not care just at present to have their identity known."

THE NEW CENTURY RUBBER CO.

AN official of this new company, organized to reclaim rubber by a new process, advises us as follows in regard to the factory at Burlington, New Jersey: "Increasing the size of boiler and engine, and getting some extra machinery that the superintendent, Mr. Thomas Harmer, wanted, on account of the satisfactory results of his experimenting, have delayed us in getting the factory started before June 20."

BOSTON BELTING CO.

THE regular quarterly dividend (No. 127) of 2 per cent. is payable July 1, 1901, to shareholders of record at the close of business on June 15. Boston newspapers state that the latest quotation for this company's stock was 212½.

FISK RUBBER CO. IN SYRACUSE.

THE Fisk Rubber Co.'s branch at Syracuse, New York, in charge of A. G. Bolster, manager, has grown, since January 1, 1899, from desk room in a very small tire repair shop to a store of three stories—No. 423 South Clinton street—with capacity for storing 15,000 pairs of tires. Mr. Bolster has also got up a steam vulcanizer, and, by his personal supervision, has built up the largest tire repair business in central New York. The new vulcanizer, by the way, has attracted favorable attention in all parts of the country, and Manager Bolster has just received an order to ship one to England.

RUBBER BELTING FOR NEW GRAIN ELEVATORS.

THE new elevator of the Great Eastern Elevator Co., at Buffalo, New York, has a storage capacity of 2,201,020 bushels and a handling capacity of 30,000 bushels per hour. The contractors were the Steel Storage and Elevator Construction Co. (Buffalo). The rubber belting, supplied by the Diamond Rubber Co. (Akron, Ohio), consists of 10 conveyor belts, four ply, 36 and 40 inches wide, and aggregating 2851 feet; and 15 bucket belts, 20, 22, and 26 inches wide, 5, 6, and 7 ply, and

having a total length of 2732 feet.—Another large new elevator in the same city is that of the Buffalo Elevating Co., with 1,250,000 capacity. The rubber equipment embraces 9 bucket belts, seven ply, 22 and 30 inches wide, of a total length of 2626 feet, and 2 conveyor belts, four ply, 40 inches wide, and aggregating 1072 feet.—The operating power in both these elevators will be electricity.

NEW JOBBING HOUSE AT COLUMBUS, OHIO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We will open up about July 1 an exclusive rubber house under our present name, in Columbus, Ohio, Nos. 44-46 West Naghten street. This branch house is to take care of our rapidly increasing business throughout Ohio, West Virginia, and eastern Kentucky. We will carry a full line of the Hood and Old Colony rubbers, and also combinations. Our firm is composed of A. P., G. P., and I. W. Butterworth, and H. W. Lushy, the latter two of whom will be associated with the new enterprise. The fact that the state of Ohio has about 4,500,000 people and not an exclusive house jobbing rubbers, has led us to believe there is a big field in this section for such an establishment as we have planned.

MARION RUBBER CO.

Wholesale Rubbers and Felts, Marion, Indiana, June 15, 1901.

THE SINGER MANUFACTURING CO.

THE regular quarterly dividend of 1¼ per cent. was payable on June 29 to shareholders of record on June 19. The shares of the company were quoted recently in New York at 245.

RUBBER GOODS MANUFACTURING CO.

THE directors, at a meeting in New York on June 3, declared the regular quarterly dividend (No. 9) of 1¼ per cent. on the preferred shares, payable June 15 to holders of record June 7. The directors also declared dividend No. 5 of 1 per cent. on common stock, payable July 15 to holders of record July 3. Transfer books will be reopened July 15.—The following is a record of transactions in Rubber Goods shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 4...	35,060	38¼	31½	4,702	90	86
Week ending May 10...	10,285	37	28	3,000	86¼	80
Week ending May 18...	6,225	32½	30	580	82	80½
Week ending May 25...	5,100	34½	32	375	83	82½
Week ending June 1...	1,750	34	32½	100	83½	83½
Week ending June 8...	1,100	33½	32½	572	83	79¾
Week ending June 15...	2,860	33¾	31	215	79	78½
Week ending June 22...	5,596	31½	29	1,700	79½	78

—It is stock market gossip that the company's surplus has increased \$500,000 as the result of the large business done since the annual meeting in February.

A NEW PLANT FOR THE STURTEVANT COMPANY.

THE B. F. Sturtevant Co. (Boston) has recently completed the purchase at Hyde Park, Mass., of a tract of land containing 15 acres or more, and is preparing plans for the erection thereon of a large up-to-date plant for the manufacture of blowers, engines, motors, forges, heating apparatus, etc. This purchase, although hastened by the recent fire which damaged the works at Jamaica Plain, and which eventually will be abandoned, is the natural outcome of the rapid growth of this concern during the past few years and of the congested condition of the present plant in which increased facilities could not be advantageously provided. The new site is on the same railroad line—

the New York, New Haven and Hartford—only five miles from the old plant and less than ten miles from Boston. The new plant will be arranged to reduce to a minimum the labor cost of handling material, and will provide for its direct progress through the shop from foundry to shipping room.

ANOTHER "KERITE" CABLE FOR ALASKA.

W. R. BRIXEY is manufacturing, at Seymour, Connecticut, for the United States government, a submarine cable, to be about 125 miles long, and intended to connect Juneau and Skagway, Alaska. It is a single conductor cable, made up of seven No. 21 wires, insulated with "Kerite" compound to a diameter of $\frac{3}{8}$ inch, taped, juted, and armored with No. 9 galvanized steel wire, over which there is a covering of two layers of jute saturated with a preservative compound. The cable will be coiled in gondola cars and shipped by rail from the factory to Seattle, Washington, and there coiled into the hold of a vessel chartered by Mr. Brixey for laying the cable. It is expected that the cable will be laid in the latter part of this month. George F. Porter, who is Mr. Brixey's manager, is already in Alaska arranging details.—Mr. Brixey has already laid a cable 132 miles long between Cape Nome and St. Michael, Alaska, besides supplying a considerable quantity of deep sea cable for the government for use among the Philippine Islands.

RUBBER COMPANY REPORTS.

THE American Rubber Co., May 6, 1901:

ASSETS.		LIABILITIES.	
Land and water power.	\$ 37,287	Capital stock	\$1,000,000
Buildings	148,617	Debits	460,000
Machinery	136,927	Balance profit and loss	300,552
Cash and debts receivable	1,084,280	Reserve for deposits	865,734
Stock in process	1,228,173	Total	\$2,635,286
Total	\$2,635,286		

Woonsocket Rubber Co., March 30, 1901:

ASSETS		LIABILITIES	
Real estate	\$ 925,673	Capital stock	\$3,000,000
Machinery	345,137	Debits	1,831,722
Cash and debts receivable	1,771,136	Fixed surplus	414,905
Goods and stock in process	2,454,246	Balance	249,565
Total	\$5,496,192	Total	\$5,496,192

HARDMAN RUBBER CO. (BELLEVILLE, N. J.)

It is announced that the sales department is now in charge of Silas Schwerin, the secretary of the company, for whom the company bespeak the same kind consideration as was extended to his predecessor, the late John C. Hardman.

LINSEED OIL COMBINE.

THE plan of merger of the American Linseed Co. and the Union Lead and Oil Co., mentioned in the last INDIA RUBBER WORLD, was not carried out. Instead, Standard Oil interests seem to have acquired a controlling interest in the American Linseed Co., which will remain a separate company. An important interest, however, is held by the Union Lead and Oil Co., which will be represented in the directorate. Guy G. Major, late president of the American Linseed Co., has been succeeded by Fred T. Gates, and is reported to have organized a new linseed oil company with a view to establishing mills in the west. The whole history of consolidation in the linseed oil business seems to have been one of speculative mismanagement and disaster, but the opinion prevails that under the new régime the business will be placed on a more stable basis. The Standard Oil Co. have been large distributors of linseed oil, especially in the south, which may explain the latest development. Standard Oil interests are reported to control the National Lead Co.,

the largest factor in the white lead trade, and a combination of the latter with the Linseed company has been suggested as possible.—Land is reported to have been purchased June 8, at Toledo, Ohio, for the largest linseed oil mill in the world, by a company embracing Guy C. Major, late mayor of Toledo, and a practical linseed oil man.—An advance in the price of linseed oil of 5 cents a gallon was announced on June 22, following an advance of 4 cents earlier in the week. This brought the price of City oil up to 70 cents and Western oil to 68 cents.

RUBBER HOSE FOR A CHICAGO PARK.

THE South Park commissioners, Chicago, on June 12, opened bids for 18,000 feet of 3 ply hose, to be mainly 1 inch diameter, bidders to quote for "coupled" and "uncoupled." The bids ran:

BIDDERS.	COUPLED.			UNCOUPLD.		
	1 in.	1 1/4 in.	2 in.	1 in.	1 1/4 in.	2 in.
No. 1.....	8	10 1/4	14 1/2	7 3/4	9 3/4	13 1/2
No. 2.....	8	16	22	7 3/4	15	20
No. 3.....	..	..	..	8	15	20
No. 4.....	8 1/2	12 3/4	17	8	12	16
No. 5.....	..	..	..	8	12	16
No. 6.....	9 1/2	..	..	..	..	..
No. 7.....	12.34	18.88	25.44	12	18	24
No. 8.....	18	24 1/4	..	17	22 3/4	..

The firm second on this list were the lowest bidders last year, and the park superintendent writes: "Their hose was satisfactory, considered as a one-season hose. We shall compare samples closely, as between the two low bidders, and award accordingly."

REDUCED RATES FOR BUYERS IN NEW YORK.

THE Merchants' Association of New York announces that reduced rates—1 1/3 fares for round trip—have been arranged for buyers coming to New York during the fall buying season, over all territory between the New England boundary line and the Mississippi, and south to the line of the Ohio and Potomac rivers. The dates are August 3 to 7, inclusive, and August 24-28 inclusive, with 2 return limit of 30 days.

BANIGAN RUBBER EXHIBIT AT BUFFALO.

AN exhibit of rubber boots and shoes manufactured by the Joseph Banigan Rubber Co. appears at the Pan-American Exposition, in a booth designed outwardly to represent a rubber gatherer's hut in the Amazon river country. It has a thatched roof, with a rubber tree trunk and branches of other trees as supports. There is an exhibit of rubber gathering implements, and specimens of rubber crude and in various stages of manipulation in the factory. Three old "pure gum" shoes, of the ante-Goodyear period, and brought by the late Joseph Banigan from Brazil, appear in the display, in contrast with which is an attractive assortment of the latest and best Banigan products in rubber footwear. This display is in charge of Edward R. Rice, of Buffalo, one of the selling agents of the company, and is located in the Manufactures building.

"RUBEROID" FLOORING STANDS A SEVERE TEST.

THE Standard Paint Co. (New York) have removed their offices from No. 81 John street—where their warehouse still remains—to No. 100 William street, into larger and better appointed quarters. The company are manufacturers of the "P. & B." products, including the "P. & B. Ruberoid." An interesting feature in the equipment of the extensive new offices is that they are floored throughout with "Ruberoid." One of the old offices, in John street, was, years ago, floored with this material, handsomely decorated. Not only was the experiment successful, but when the company were obliged to move, to find more room for their increasing business, the old "Ruberoid" flooring was found to be in such good condition

as to warrant its transfer to the new quarters, where it is now doing duty, apparently as good as new, after years of service. —The "P. & B." exhibit made by this company at the Paris Exposition of 1900 was described and illustrated in THE INDIA RUBBER WORLD at the time. They have an equally effective display this year at the Pan-American Exposition at Buffalo. —Mr. Ralph L. Shainwald, president of the Standard Paint Co., sailed from New York on June 6, intending to spend the summer in Europe on business. They have a European factory and agencies throughout Great Britain and in leading cities on the continent.

DIAMOND RUBBER CO. IN HARD RUBBER.

It is authoritatively stated that the Diamond Rubber Co. (Akron, Ohio) have determined to engage in the manufacture of hard rubber goods on an extensive scale. They are at present turning out an attractive line of samples. —During the month the company awarded contracts for the construction of a new five story brick building, 325x80 feet, which, it is understood, will be devoted wholly to the manufacture of tires. The building now occupied by their tire department may be devoted, in part, to the making of hard rubber goods.

UNITED STATES RUBBER STOCKS.

THE following is a record of transactions on the New York Stock Exchange, for several weeks past:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 26	4,075	21½	20½	1,185	63	60
Week ending May 4	8,970	23½	20½	3,910	65	60
Week ending May 10	5,870	23	19½	3,550	64½	60
Week ending May 18	4,900	21½	20½	2,032	63½	62
Week ending May 25	10,440	24	20½	6,820	67	61½
Week ending Jun. 1	1,820	21½	20½	757	62½	61½
Week ending Jun. 8	4,430	21½	20½	1,313	63½	62½
Week ending Jun. 15	4,875	22½	20½	1,600	65	62½
Week ending Jun. 22	3,100	22	20½	1,817	62½	60½

A sworn statement filed with the Massachusetts commissioner of corporations on June 5, 1901, as required by the laws of that state, showing the condition of the company's affairs March 31, 1901, contains some details which do not appear in the company's annual report, for which reason the figures are given here:

ASSETS.

Real estate, buildings, machinery, furniture and fixtures	\$ 1,700,902 26
Cash and debts receivable	1,433,646 78
Manufactures, merchandise, material, stock in process	1,259,353 31
Patent rights	215,417 38
Loans secured by mortgage	30,000 00
Investments in stocks of other companies	45,377,036 13

Total..... \$50,016,355.86

LIABILITIES.

Capital stock, preferred	\$23,525,500.00
Capital stock, common	23,666,000.00
Debts, general	1,648,693.58
Debts, for goods sold	1,151,149 27
Balance, profit and loss	25,013 01

Total..... \$50,016,355 86

PROFITS OF AMERICAN CHICLE CO.

THE regular quarterly dividend of 1½ per cent. on the preferred stock and a dividend of 2 per cent. on the common stock have been declared, payable July 1. The amount to be disbursed will be \$45,000 on the preferred and \$120,000 on the common—a total of \$165,000. These stocks have been quoted during the month: Preferred—80 bid, 87 asked; Common—80 bid, 82 asked.—Imports of Chicle into the United States during the ten months ended April 30 amounted to 2,336,668 pounds, against 1,963,182 pounds in the same period of the pre-

ceding year, and 1,710,039 pounds in the ten months ended April 30, 1899.—A newspaper article reports the sales of the company at 135,000,000 packages per year, which, at 5 cents, gives a retail selling value of \$6,750,000.

RUBBER TIRE SUIT COMPROMISED.

THE suits of the Goodyear Tire and Rubber Co., Hartford Rubber Works Co., and the India Rubber Co. against the Consolidated Rubber Tire Co. for a permanent injunction restraining the directors of the Consolidated Rubber Tire Co. from retiring \$3,000,000 preferred stock and converting it into debenture bonds was disposed of on June 24, when Vice-Chancellor Pitney, at Jersey City, by consent of the two parties, raised the injunction preventing the issue of debenture bonds and retirement of the preferred stock and allowing the issue of the proposed bonds on condition that each bond shall contain a clause whereby the existing rights of creditors shall in no wise be prejudiced by reason of such issue. The proposition to put such a clause in the bond was made by the defendants in the case in the course of the argument in the injunction suit and was accepted by the plaintiffs. Previous to the agreement R. V. Lindabury, counsel of the Consolidated Rubber Tire Co., filed an answer denying all the charges of fraud and insolvency. The answer claimed that the Consolidated company have earned profits of \$80,000 in the last four months and that the present assets of the company are more than \$800,000 and that they can pay their debts many times over. Affidavits were filed in support of the answer.

NEW INCORPORATIONS.

THE American Belting Co. (Youngstown, Ohio), May 23, under Ohio laws; capital, \$50,000. To manufacture canvas oil-stitched belting. Incorporators: J. Edwin Davis, J. S. McClurg, George F. Arrel, John F. Harrington, John E. McVey. A factory is being erected, with the idea of beginning work by August 1. The two leading incorporators are officers of the Mahoning Rubber Manufacturing Co.

=The Empire Rubber Shoe Co., May 31, under New York laws; capital, \$50,000. Herman Clarke, president; Charles P. Russell, secretary; Clarence V. N. Radcliffe, treasurer; W. H. Gorman, general agent, No. 82 Duane street, New York. These, and C. M. Swift, of New York, constitute the board of directors. This company have leased the factory of the Model Rubber Co. (Woonsocket, Rhode Island), as reported in the last INDIA RUBBER WORLD. The mill was started June 10, on samples, and later in the month a full start was made. Patrick J. Wren and Frederick Hadfield, who were among the incorporators of the Model Rubber Co. two years ago, and who had charge of the factory, have been employed by the new company to continue in charge of the manufacturing.

=The Pequannac Rubber Co. (Butler, New Jersey), June 10, under New Jersey laws; capital, \$60,000. Incorporators: Joseph F. McLean, Charles J. Trent, Paul Witteck. The parties interested promise details for publication in our next issue.

=Ball Tire Co. (New York), June 19, under New Jersey laws, to manufacture vehicle tires; capital, \$300,000. Directors: Mendel Presberger, Passaic, N. J.; Maurice Moses and M. F. Moses, New York city.

=Pneumatic Syndicate Co., June 6, under New Jersey laws, to manufacture pneumatic horse collars; capital, \$120,000. Incorporators: Henderson B. Hays, A. Livingston Norman, George W. Flaacke, Jr. Principal office: No. 1 Montgomery street, Jersey City. This, THE INDIA RUBBER WORLD was informed at the time, was "the preliminary organization of the American Pneumatic Horse Collar Co."

=The American Pneumatic Horse Collar Co., June 14, under New Jersey laws, to manufacture pneumatic horse collars;

capital, \$2,000,000. Incorporators: Henderson B. Hays, George W. Flaacke, A. Livingston Norman. Officers: J. K. Tillotson, president; Edw. H. Cloud, vice president; N. B. Hays, treasurer; A. L. Norman, secretary. Office: No. 11 Broadway, New York. The collars to be made are such as are covered by the patents heretofore owned by the United States Pneumatic Horse Collar Co., now in liquidation.

TRADE NEWS NOTES.

A RECENT treasury department decision relates to the "draw-back" on flax or linen hydraulic hose manufactured by the Eureka Fire Hose Co., of New York, which indicates that this company must be getting a share of export trade that counts for something. The duty paid on imported yarns used in weaving the hose is refunded in case the product is exported.

=The Philippines commission have appropriated \$70,000 for a modern fire department for the city of Manila, with American engines and other equipment.

=The United States Waste Rubber Co. has been formed, at Brockton, Mass., mainly to deal in unvulcanized rubber cement waste, which is collected for them all over the country. The business is conducted by Alfred Freedman and Samuel Levin. Besides the Brockton office, they have branches at Stoughton, Mass., and No. 123 Endicott street, Boston.

=American firms are reported to have estimated lately on 31 miles of cable for a tramway extension in Sydney, New South Wales. The order went, however, to the British Insulated Wire Co., Limited, of Prescott, Lancashire, who make a specialty of paper insulation.

=The Durham Rubber Manufacturing Co. (Bowmanville, Ontario) are mentioned as running their factory fifteen hours a day and contemplating the erection of an additional two story brick building.

=The Hamilton Rubber Manufacturing Co. (Trenton, New Jersey) have recently added a frame building to their factory, to be used as a storage warehouse.

=Latta & Mulconroy Co. (Philadelphia), who were reported recently to have been damaged by fire, inform us that the tenants of the upper part of their building were burned out, but their own loss was so trifling that they made no report to the insurance company. They give credit for their good fortune to the firemen, who, by the use of rubber covers, prevented even the water from reaching Latta & Mulconroy's goods.

=Charles Blackador & Co. is the name of a new copartnership firm at St. Johns, New Brunswick, formed to handle a new rubber heel patented by Mr. Blackador.

=A "Japanese list" of rubber footwear, applying to goods made up expressly for the Japanese trade, appears in one of this season's catalogues of the United States Rubber Co.

=The Manhattan Rubber Manufacturing Co. (New York) are distributing among their customers a convenient packet labelled "Private Papers. Property of ———," which the average recipient will be apt to put into his pocket and make a practical use of. It will be a constant reminder, of course, of the Manhattan goods.

=The Delaware Rubber Co., a jobbing company at No. 244 Market street, Philadelphia, have obtained an injunction against the Manhattan Storage Co. and the Puritan Rubber Co., of that city, restraining them from selling any tires branded "Delaware Special," "Haverford," or "Union."

=The stock, fixtures, and good will of the Lowell Rubber Co. (Lowell, Mass.) have been purchased by Harry C. Kittredge, who will continue the business.

=The Monarch Rubber Co. (St. Louis) are reported to have booked orders recently for rubber shoes, from Boston and elsewhere in New England.

=The Ohio Rubber Co. (Nos. 204-206 Superior street, Cleveland), who have the exclusive sale of the Interlocking rubber floor tiling in Ohio, have been engaged lately in filling some important contracts, for public buildings and banks.

=The enterprising head of the O'Sullivan Rubber Co. (Lowell, Mass.) does not intend that any chance for legitimate advertising shall get by him. This was proved in the Boston papers recently, where the story was told of a man walking through the corridors of Young's Hotel and, feeling that something was embedded in the heel of his shoe, was delighted to discover that it was a pearl. The heel being an O'Sullivan heel, the company at once sent the story out broadcast, and it is being very widely quoted.

=George H. Carter, of the J. F. Carter Co., Beverly, Massachusetts, has brought suit against The A. J. Tower Co. (Boston), asking \$10,000 damages for alleged infringement of a patent for the manufacture of waterproof cloth used in the making of oiled clothing, and praying for a perpetual injunction against the use of the process.

=The Monarch Rubber Co. (St. Louis, Mo.) have departed from the usual line of packing cases used in rubber shoe factories. Instead of having them built of pine, they are having them built of cottonwood, which weighs from one-third to one-half less than the former, and thus saves freight.

=A certain rubber jobbing house keeps standing an offer of "\$5 reward for first information of fire hose wanted" in any town.

=Manager James Suydam, of the Goodyear Rubber Co. (St. Paul, Minnesota), recently visited Winnipeg in the interest of the trade in "Gold Seal" rubber footwear, which finds some sale in the Dominion of Canada, in spite of a duty of 25 per cent.

=The New Jersey Car Spring and Rubber Co. are understood to have had most satisfactory results in the sale of the "Wemaka" solid vehicle tire, which is now controlled from their head office.

=It is reported that more hands are employed in the factories of the Boston Rubber Shoe Co. than at any time for years.

=There is an idle starch factory at Waukegan, Illinois, which somebody from Chicago has been looking over, to see if the plant is suitable for a hard rubber works.

=The B. F. Goodrich Co. (Akron, Ohio) have recently created two new offices, that of Manager of Sales, and Assistant General Superintendent, the places being filled by H. E. Raymond, and E. C. Shaw, both of whom are known as active and capable Goodrich men.

=One criticism that golf experts have made regarding the Haskell ball was that the markings were so shallow that the ball did not fly accurately. This defect, however, has been remedied, this season's ball being marked as deeply as any and is really as pretty a piece of Gutta-percha molding as can well be imagined.

=Betzler & Wilson (Akron, Ohio), manufacturers of hard rubber specialties, are about to engage in the manufacture of dental rubber.

=The Kelly Springfield Rubber Tire Co. (Davenport, Iowa), incorporated August 31, 1899, in spite of their name, announce that they have no connection with any other company. They are marketing solid wired-on carriage tires.

=Sectional Pneumatic Tire Co. (Binghamton, New York), incorporated lately to manufacture a new tire, have made some changes in their organization. The officers now are: E. C. Inderlied, president; B. A. Baumann, vice-president; F. J. Baumann, treasurer; R. D. Bundy, secretary; W. L. Bundy, general manager; Charles Miller [patentee] superintendent.

=The directors of the Dunlop Company of Australia, Limited, at their recent half yearly meeting in Melbourne, declared *interim* dividends at the rate of 7 per cent. yearly on the cumulative preference shares, 7½ per cent. on the deferred preference shares, and 5 per cent. on the ordinary shares. It is expected that the new factory which this company are erecting will be able to earn good returns by reason of the Australian import duties on rubber goods, apart from any other reason.

INDIA-RUBBER AT THE PAN-AMERICAN.

WHILE the rubber industry as a whole cannot be said to be adequately represented at the Pan American Exposition, at Buffalo, creditable exhibits are made by a few leading firms. Besides the Banigan rubber footwear display, referred to in another column of this paper, the following firms may be mentioned as making exhibits of rubber goods:

Boston Belting Co.
New York Belting and Packing Co., Limited.
Revere Rubber Co.
Pennsylvania Rubber Co.
Goodyear Tire and Rubber Co.
American Wringer Co.
Robins Conveying Belt Co.

The Bridgeport Gun Implement Co. exhibit golf balls. The exhibit of John A. Roebing's Sons Co. includes insulated wire. An exhibit is made by the Emery Tire Co. Further references to these displays will be made at a later date. In the way of crude rubber, specimens are shown in the Mexican exhibit, and doubtless others will appear later in the special buildings being erected by other Latin American countries.

PLYMOUTH RUBBER CO.'S NEW LINE.

THE Plymouth Rubber Co.—A. Sydemann, president and treasurer—of Stoughton, Massachusetts, who have had much experience in the manufacture of rubber heels for the trade, have decided to go into the business of manufacturing these articles under their own name, in view of the marked increase in the demand for rubber heels. They have experimented with compounds for these goods until they have succeeded in finding one especially adapted to the purpose, and at a price which will appeal to the public, while enabling the shoemaker to make a profit on applying them. The two specialties made in this line are called the "O. K." whole heel, which includes the rand, and the "Star," which is a lift heel.

PERSONAL MENTION.

COLONEL SAMUEL P. COLT, on returning to his home at Bristol, Rhode Island, from New York, where he had been elected president of the United States Rubber Co., was welcomed by the employes of the National India Rubber Co., of which he long has been president. The employes, headed by a band, marched in a body from the factory to the train, and escorted Colonel Colt to his home.

=Mr. H. C. Corson, vice president of the B. F. Goodrich Co. (Akron, Ohio), has gone to his summer home, Cape Breton, there to remain until the cold weather.

=Edgar Munson, of Williamsport, Pennsylvania, a director in the Lycoming Rubber Co., of that place, died May 26, of apoplexy, in his eighty-first year. He was president of the Williamsport National Bank, and interested in other important business enterprises.

=Mr. R. W. Evans, treasurer of the Picher Lead Co. (Chicago), sailed from New York for Southampton on June 5, to look after the interests of sublimed lead in England and on the continent for a couple of months. The desirability of using sublimed lead as a compounding material is becoming appreciated in England, France, Germany, and Russia. Mr. Evans was accompanied by Mrs. Evans, and they are expected to return early in August.

=Mr. A. H. Marks, vice president of the Diamond Rubber Co. (Akron, Ohio), has gone to Moosehead Lake, Maine, for a two months' vacation.

=The annual convention of the Southern Industrial Association was held this year at Philadelphia, beginning June 11. It was well attended by representatives of commercial bodies from all parts of the south. Mr. H. N. Towner, the Memphis rubber jobber, and secretary of the Business Men's Club of that city, as usual, took an active interest in the proceedings. Mr. Towner was quoted in the Philadelphia *North American* as saying: "The south has never had such a propitious opportunity for presenting its claims before a northern audience. The result will be the inauguration of a more prosperous régime for the southern states."

=Arlington U. Betts, some time engaged in the rubber business at Toledo, Ohio, became a soldier when the war with Spain began, and in the Philippines won the rank of captain in the Forty-seventh volunteer infantry. He has now been appointed by the Philippines commission as civil governor of the province of Albay, in the southeast of the island of Luzon. The capital of Albay is the city of the same name.

=J. Herbert Foster, of the Rubber Alphabets Co. (Meriden, Connecticut), left that town on June 1 to go to Mexico to investigate the rubber planting situation. Should he make a favorable report, it is understood that several citizens of Meriden are prepared to invest in the business. Mr. Foster's destination was Tlacotalpam, state of Vera Cruz, which is near the Gulf.

FRANCIS H. HOLTON.

PROBABLY no man in the druggists' and stationers' sundries line is better known than the subject of this sketch, Mr. F. H. Holton. He was born as long ago as 1831, in Northfield, Massachusetts, and it is interesting to chronicle just here that he is a cousin of the late Dwight L. Moody, and that both of them were clerks together in Boston when young. Mr. Holton's first rubber experience came when he was quite a boy, when he went to work for his uncle, Mr. Fred. Holton, who was then with the Hayward Rubber Co. His first work was scrubbing the sulphur from rubber shoes, and also "blocking" old-fashioned pure gum shoes.



FRANCIS H. HOLTON.

In 1854 he went to New York and obtained employment in a small hard rubber factory owned by a man named Hering. There he met Charles Goodyear and became further interested in the future of India-rubber. A little later he was able to secure a partner, a Professor Parmelee, and together they started a small rubber factory at the corner of Thirty-seventh street and Broadway. This partnership continued until 1860, when Mr. Holton decided to carry on the business alone and moved his works to Adams street, Brooklyn. Eight years later he took a Mr. Gray in as a partner, the firm name being Holton & Gray. Mr. Gray remained a part-

ner until 1870, then sold his interest to C. B. Dickinson; in 1874 Mr. Holton also sold his interest to Dickinson, the factory being then operated as the Brooklyn Rubber Works. Later Mr. Holton started a factory in Gold street, New York, and built up a fine business in druggists' and stationers' sundries. It was while in this factory that he met the late Dr. B. F. Goodrich, who induced him to leave New York and go to Akron to take charge of the specialty department of The B. F. Goodrich Co. Mr. Holton remained with the Goodrich company for thirteen years, ten of these years being actively employed; the last three he was practically retired, and spent much time in traveling and recreation. Being in excellent health, however, and always interested in the rubber business, he is again at work, at present being the general superintendent of The Rubber Specialty Co., of Akron, Ohio, where he is bringing out a fine line of sundries, together with a number of valuable specialties.

A CARD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to a publication in your journal of June 1, I find that a concern in New York who call themselves the United Securities Co. are issuing a prospectus to obtain subscriptions to a corporation called the Pacific Rubber Co., which they claim is organized under the laws of Maryland, and are using my name and a report I made on the property. These people represented to me they had a corporation with a capital surplus of \$1,012,000, and offered to purchase my property for \$120,000, cash. I found these people were not responsible, and are not registered as a company, and refused to convey the property to them, or any one connected with them. Their statement that the property is owned by them is false. Their statement that the Pacific Rubber Co. pays 20 per cent. annually is false. I have learned that Henry B. Wall's and Señor Luiz Velez-Arriaga's names have been used without authority. The so-called Pacific Rubber Co. do not own any property obtained from me, and have at the present time no authority from me to use my name or that of Señor Luiz Velez-Arriaga, and I wish to positively disclaim any connection of any kind with the United Securities Co., and Mr. Raymond Surbridge or George Surbrug, who at times sign themselves as secretary and treasurer. By publishing this card, you may save some innocent purchaser of this stock from loss. Truly yours,

CHAS. G. CANO.

New York, June 26, 1901.

RUBBER FROM A MEXICAN PLANTATION.

THE San Francisco *News Letter*, in its issue of June 15, 1901, said:

"La Zacualpa Rubber Plantation Co., on June 1, brought to this city 1050 pounds of clean, crude rubber. This is the first shipment of this year's crop, the largest single shipment received at this port, and the first from a cultivated plantation. The shipment is on exhibition this week at the plantation's general offices, Nos. 703-4 Claus Spreckels building. This exhibit is of interest, as it enables the Zacualpa company to declare itself the only company in the United States which has produced rubber to show to its investors. The Zacualpa company is shipping to London 30,000 pounds of rubber yearly, but the Bowers Rubber Co., which bought up the present shipment, is competing strongly with other local firms for more. This rubber is so pure as to delight the hearts of dealers. The Zacualpa company now has a plantation of 725,000 rubber

trees. Their plantation is situated on the Pacific coast within the department of Soconusco, Mexico. Mr. J. W. Butler is president and managing director, and Mr. E. Noel, secretary. The economical management of the company, together with its superior product, makes it a gilt-edged proposition for investors."

A NEW FIRM IN SUBSTITUTES.

THE Rubber Chemical Co., Limited, an English firm whose advertisement appears on another page of this paper, was first mentioned in our columns in July, 1900, in a record of the formation of the company, to make supplies for the use of rubber manufacturers. They appear to have met with success, and are now prepared to offer their substitutes and other chemicals to the trade on both sides of the ocean.

THE RUBBER TRUST AND ITS WORK.

UNDER the heading "Facts About Trusts" the New York *World* some time ago, in its editorial columns, contained this:

Dun's Review for Jan. 13, 1900, gives the following increase of prices in some of the lines controlled by the trusts: - - - The rubber trust increased the price of rubber from 94 cents on Jan. 4, 1889 to \$1.45 on Jan. 3, 1900.

This being information that previously had been denied to the rubber trade, the issue of *Dun's Review* quoted was referred to, with this result: In a table of "Prices of Materials," without a word about trusts, India-rubber and a whole lot of other commodities were mentioned, showing fluctuations in the price of crude rubber, between the dates mentioned, from 94 cents to \$1.04½ — not \$1.45, as the *World* read it. All of this is not of startling importance, but the *World's* article has been copied very widely, and probably still is going the rounds, showing what careless leaders of public opinion some newspapers can be. We regard as of much more importance the educational work of the New York *Journal*, whose cartoonist, Mr. F. Oppen, has seriously undertaken to show just what the trusts look like. Here is a picture, cut out from one of his characteristic cartoons, showing the appearance of the Rubber Trust. It will be noticed that the monster is tagged with its name, in order that no mistake may be made about its identity.



RUBBER BANDS.—The Washington *Star* quotes "a wholesale dealer in rubber bands in New York" as estimating the annual production of these articles in the United States at about 400,000 gross, or 57,600,000 single bands. At least 60 per cent. of the goods, he said, are made in New York. The annual production will have to be increased 50 per cent. before it is large enough to give each inhabitant one band per year.

MENTION is made in a late publication by the Mexican Mutual Planters' Co. (Chicago) of seventy acres planted in rubber near their estate, the plants four years old from the seed, the owner of which expects to collect 4000 pounds of seed this year. The Mexican Mutual company have contracted to take 2500 pounds, at \$1250.

REVIEW OF THE CRUDE RUBBER MARKET.

THE net result of the changes in the market for the month past is that some grades of Pará are a trifle lower, while others are unchanged; Centrals are firm, without change for principal grades; and Africans show a reduction throughout most of the list. During the first half of the month buying of Pará sorts were rather active, as if manufacturers had given up hope of lower prices, and were preparing to cover requirements for some time ahead at current figures. Later, however, this activity declined. It is usual with some important factories to take stock about July 1, and just before this date they do not, as a rule, add to their supplies of raw material. It now appears that the total receipts of Pará rubber at the initial markets (including Caucho) were slightly larger for the crop season ending on July 1 than in any former year, although, for the first half of the season, there was a material shortage as compared with last year. While the receipts in the consuming markets have been liberal during the last few months, deliveries have advanced equally in volume, so that the visible supply is even less than twelve months ago. Stocks at Pará are exceptionally small of late, and all cable advices relate to a tendency to advance in prices, which are claimed already to be relatively higher than at New York or Liverpool. The future of prices for Pará grades must be determined, of course, by the production of the season now beginning—a problem rendered exceedingly complex by the unsatisfactory financial conditions in Brazil, concerning which it is difficult to gain intelligible reports, or to predict their effect upon the business of producing rubber.

The latest New York quotations are:

PARÁ.		AFRICAN.	
Islands, fine, new....	84 @85	Tongues.....	46 @47
Islands, fine, old....	85 @86	Sierra Leone.....	58 @59
Upriver, fine, new....	87 @88	Benguella.....	52 @53
Upriver, fine, old....	89 @90	Cameroon ball.....	46 @47
Islands, coarse, new....	47 @48	Flake and lumps.....	35 @36
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	61 @62	Accra buttons.....	47 @48
Upriver, coarse, old....	64 @65	Accra strips.....	@
Caucho (Peruvian) sheet	47 @48	Lagos buttons.....	47 @48
Caucho (Peruvian) strip	none imported now.	Lagos strips.....	@
Caucho (Peruvian) ball	55 @56	Liberian flake....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	53 @54	Madagascar, black....	@
Guayaquil, strip.....	50 @51	GUTTA-PERCHA.	
Nicaragua, scrap....	53 @54	Fine grade.....	1.75
Mangabeira, sheet....	41 @42	Medium.....	1.45
EAST INDIAN.		Hard white.....	1.20
Assam.....	61 @62	Lower sorts.....	65
Borneo.....	36 @46	Balata.....	

Late Pará cables quote:

	Per Kilo		Per Kilo.
Islands, fine.....	57700	Upriver, fine.....	68550
Islands, coarse.....	28800	Upriver, coarse.....	48150

Exchange 11 1/4 d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1901.	1900.	1899.
Upriver, fine.....	89@93	89@1.02	99@1.02
Upriver, coarse.....	62@65	65@75	82@86 1/4
Islands, fine.....	85@90	87@99	99@1.01 1/2
Islands, coarse.....	51@60	47@61	67@71
Cametá, coarse.....	58@63	56@65	69@72

Prices of rubber scrap have shown a slight advance during the month, the later quotations being in the neighborhood of 7 1/2 @ 8 1/4 cents for shoes in carload lots.

In regard to the financial situation, Albert B. Beers, broker in India-rubber, No. 58 William street, New York, advises us as follows:

"About the same monetary conditions have prevailed during June as for the two months previously, the best rubber paper being taken at 4@4 1/2 per cent., and names not so well known 5@6 per cent. Towards the latter part of the month, however, the demand has been somewhat less as is usually the case at the turn of the half year."

Stocks of Para Rubber (Excluding Caucho).

NEW YORK.		Total	Total	Total
	Fine and Medium.	1901.	1900.	1899.
Stocks, April 30.....	906	88 =	994	850
Arrivals, May.....	806	349 =	1155	569
Aggregating.....	1712	437 =	2149	1419
Deliveries, May.....	902	352 =	1254	790
Stocks, May 31.....	810	85 =	895	629

PARÁ.		ENGLAND.	
	1901.	1900.	1899.
Stocks, April 30.....	170	790	570
Arrivals, May.....	1165	1755	1400
Aggregating.....	1335	2545	1970
Deliveries, May.....	1185	1955	1450
Stocks, May 31....	150	590	520

	1901.	1900.	1899.
World's supply, May 31....	3102	3959	2655
Pará receipts, July 1 to May 31.....	22,911	*25,205	*24,885
Afloat from Pará to United States, May 31....	377	233	84
Afloat from Pará to Europe, May 31.....	330	832	449

[*Including caucho.]

London.

JACKSON & TILL, under date of June 1, report:

LONDON		1901.	1900.	1899.
Pará sorts.....	tons	—	—	—
Borneo.....	168	117	58	
Assam and Rangoon....	40	40	31	
Other sorts.....	528	465	394	
Total.....		736	622	484
LIVERPOOL		1901.	1900.	1899.
Pará.....	1355	1674	1133	
Other sorts.....	1411	1328	893	
Total, United Kingdom....	3502	3624	2510	
Total, May 1 ..	3397	3952	2129	
Total, April 1.....	3522	3104	1942	
Total, March 1.....	2989	1917	1784	
Total, February 1.....	3189	1848	1905	
Total, January 1.....	2901	1855	2109	

PRICES PAID DURING MAY.

	1901.	1900.	1899.
Pará fine.....	3/8 @3/10 1/2	3/8 1/2 @4/2 1/2	4/1 1/2 @4/3
Negroheads, Islands....	@2/2 1/2	@2/4 1/2	2/9 @2/10
Do scrappy.....	2/7 1/2 @2/8	2/8 1/2 @2/11 1/2	3/3 @3/5
Bolivian.....	No sales.	No sales.	4/1 1/2 @4/3

Para.

A CORRESPONDENT, writing of the larger rubber receipts this year than last, says: "Unexpected as this may have appeared

RUBBER SUBSTITUTE.

FOR SALE, the American patent of a new substitute (floating, white), superior to the best on the market, and already appreciated in Europe. Enormous profit for the manufacturer. Address SUBSTITUTE, care of THE INDIA RUBBER WORLD. [38]

POSITION OPEN.

RUBBER SHOES.—Wanted, thoroughly experienced Superintendent to establish and manage Rubber Shoe Factory in Europe. Splendid opening for the right man. Address, A. Z., P. O. Box 375, New York city. [37]

at the commencement of the season, in the face of the financial crisis, collectors have doubled their efforts to bring down their produce, and thus succeeded in raising the crop to its present dimensions. For the coming year there are, however, various important elements at work, such as reduced labor and scarcity of foodstuffs, especially in the upper reaches of the Amazon, where supplies have been insufficient, all of which point to a falling off in next year's receipts."

Gutta-percha.

EXPORTS from Singapore for the first three months of 1901, compared with former years, are stated officially as follows (in pounds):

YEARS.	Great Britain.	Other Europe.	United States.	Total.
1901.....	2,014,733	1,031,066	161,333	3,207,133
1900.....	2,600,533	662,353	353,600	3,616,666
1899.....	2,053,733	1,199,733	338,666	3,592,133

Singapore prices for Gutta-percha of late have been as follows, the first column giving the quotation per picul (133½ pounds), in silver money, and the second column the equivalent per pound in United States gold:

	Per Picul. (Silver.)	Per Pound. (Gold.)
First quality.....	\$430@570	\$1.57@1.07
Medium.....	270@420	.98@1.53
Lower.....	40@190	.15@.69

Since January 1 prices have declined about \$30 per picul for first quality and medium, and \$10 per picul for lower. On this subject, however, may be quoted a statement made at the half yearly meeting of the India-Rubber, Gutta Percha, and Telegraph Works Co., Limited, in London, on June 4, viz.: "The market prices for the different grades of Gutta-percha were, as a matter of fact, lower than they were recently, but the quality of those grades was below the usual standard, with the net result that buyers got less useful material for the money they paid than was formerly the case."

Lagos Rubber Exports Declining.

THE decline in Lagos exports has been mentioned already in THE INDIA RUBBER WORLD. We now give the official figures obtained from the Lagos custom house:

YEARS.	Pounds.	Value.
In 1895.....	5,060,504	£269,892 13 10
In 1896.....	6,484,053	347,730 2 10
In 1897.....	4,458,327	283,184 17 1½
In 1898.....	3,778,266	285,409 14 6
In 1899.....	1,993,525	160,314 16 4
In 1900.....	596,332	48 238 18 13

The Total African Output Increasing.

ANY decline in the production of a given territory seems certain of being more than compensated for returns from other colonies, as indicated by the following figures from some leading sources of African rubber supplies (in pounds):

	1895.	1900.
Gold Coast Colony.....	4,022,385	3 452,440
Lagos.....	5,060,504	596,332
Angola.....	4,652,698	67,436,026
Congo Free State.....	1,168,363	10,784,407
German East Africa.....	503,320	658,511
Kamerun.....	2880,000	21,328,536
Togoland.....	68,200	2 380,530
Total.....	16,355,470	24,575,782

[a—1894. b—1899. c—1898-99.]

Liverpool.

WILLIAM WRIGHT & CO report [June 1]:

"Fine Pará has met a steady demand, and prices close about the parity of last month. During the early part of the month the market was depressed with a view to frighten the holders of May tenders. This movement succeeded to a certain extent, and 3s. 8d. was touched, but very little sold thereat;

eventually prices recovered to 3s. 10d., then on bear manipulation declined to 3s. 9d., finally closing at 3s. 9½d. The market in Pará and Manáos still continues considerably above the parity of prices ruling here, with an active demand, all available supplies being bought at current rates. This market has been at the mercy of two rival American speculators, whose only object seems to be to spoil each other's game, quite apart from the interests of the trade. This may continue for some little time, but in spite of it all, we still adhere to our previously expressed opinion that the tendency of prices will be upward. A recent article in a New York paper alluded to a 'corner' in rubber, wherein the bear speculator posed as the manufacturers' friend. We would, however, remind manufacturers that both 'bears' and 'bulls' play for their own hand, not from the philanthropic view of helping the manufacturer. Sales on spot total 110 tons. For delivery a considerable quantity sold May June 3s. 9½d.; June-July 3s. 9½d. to 3s. 8½d. to 3s. 9½d.; July August 3s. 9½d. to 3s. 8½d. to 3s. 10½d., and one lot, August-September 3s. 9½d."

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Feb. 28.	Mar. 31.	Apr. 30.	May 31.
Pará: Fine.....	797 tons	1032 tons	1082 tons	854 tons
Medium.....	107 "	138 "	179 "	149 "
Negroheads.....	132 "	176 "	255 "	241 "
African.....	779 "	862 "	792 "	852 "
Peruvian.....	46 "	203 "	294 "	371 "
Mangabeira.....	430 pkgs	422 pkgs	418 pkgs	378 pkgs
Pernambuco.....	43 "	177 "	162 "	— "
Ceará.....	1817 "	1778 "	1156 "	1105 "
Maniçoba.....	3 "	80 "	122 "	31 "
Assaree.....	451 "	486 "	495 "	494 "
Mollendo.....	25 "	—	6 "	14 "

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The condition of the rubber market for the past week for the most part remained unchanged, though Pará grades showed a slight improvement. In Africans, a tendency was apparent to await the result of the inscriptions at Antwerp. A slight improvement is to be recorded in the market for Centrals. The sales included:

QUOTATIONS IN MARKS PER KILOGRAM.

Bolivian fine, spot....	8.40@8.45	Mexican slabs, sandy..	3.90
Do " forward..	8.50	Kassai red, prime....	5.50@5.85
Do negroheads...	6.10	Do 2d grade..	4.15
Manáos negroheads...	6.10	Lomé red.....	6.90
Pará fine, hard cure...	8.40	Do white.....	4.20@4.25
Mollendo fine.....	8.10@8.15	Mozambique ball, prime	6.80@6.90
Do negroheads...	5.85	Do " 2d...5.25@5.30	
Mattogrosso manga-		Gambia red.....	5.75
beira.....	5.05	Bissao biscuits, good..	4.35
Santos mangabeira....	4.85@4.90	Batanga balls, large..	3.50@3.60
Ecuador scraps, fine..	5.85	Congo thimbles, red, 2d	3.25@3.30
Guatemala slabs...	4.00		

Hamburg, June 11, 1901.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's public sales prices were very irregular. Good qualities were in good demand and fetched good prices—in several cases a fraction over valuation—whereas different parcels of rather inferior quality were sold at about 1½ per cent. average under valuation. The offerings amounted to 349 tons and the sales about 191 tons. Since the sales by inscription about 15 tons have found buyers, including 3770 kilos Upper Congo—Lake Leopold II at 5.80 francs per kilo; 5000 kilos Upper Congo—Aruwimi at 7.30 francs; and 3000 kilos Upper Congo—Lopori at 7 francs. The next sale by inscription will take place early in July, when about 300 tons will be offered. The stock this day is 915,081 kilograms, including 309,081 just arrived by the *Philippville* from the Congo.

C. SCHMID & CO.

Antwerp, June 12, 1901.

ANTWERP RUBBER STATISTICS FOR MAY.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Apr. 30. Kilos	813,818	821,820	521,303	186,240	145,468
Arrivals, May.....	356,915	445,062	220,822	79,922	115,842
Congo sorts.....	315,382	346,448	184,732	75,107	101,598
Other sorts.....	41,533	98,614	36,090	4,815	14,244
Aggregating....	1,170,733	1,266,882	742,125	266,168	261,310
Sales, May.....	345,291	389,256	238,775	75,905	140,184
Stocks, May 31....	825,442	877,626	503,350	190,263	121,126
Arrivals since Jan. 1	2,543,593	2,729,287	1,430,686	741,523	582,591
Congo sorts.....	2,267,238	2,445,718	1,234,284	643,037	523,047
Other sorts.....	276,355	283,569	196,402	98,486	59,544
Sales since Jan. 1..	2,332,190	2,143,652	1,190,676	645,723	601,094

RUBBER ARRIVALS AT ANTWERP.

MAY 20.—By the steamer *Albertville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo).....	kilos 278,000
Bunge & Co. (Société Anversoise).....	3,500
Bunge & Co. (Plantations Lacourt).....	1,500
Comptoir Commercial Congolais.....	6,300
Société A B I R.....	17,000
Ch. Dethier (Société la Loanje).....	2,200
Société Coloniale Anversoise (Société La Djuma)....	4,300
Société Coloniale Anversoise (Belge du Haut Congo)...	9,000
Société pour Commerce Colonial (Est Kwango).....	4,000
Credit Commercial Congolais (La Lulonga).....	2,000
Credit Commercial Congolais (M. D'Heygere à Gand)...	4,800
M. S. Cols. (Société Lubefu).....	10,000
M. S. Cols (Produits Végétaux du Kassal).....	12,000 354,600

JUNE 6.—By the steamer *Philippeville*, from the Congo:

Bunge & Co. (Domaine privé).....	kilos 190,000
Bunge & Co. (Société Anversoise).....	58,000
Société A B I R.....	37,000
Société Coloniale Anversoise (Lomami).....	10,000
M. S. Cols (Produits Végétaux du Kassal).....	13,000
Credit Commercial Congolais.....	1,081 309,081

PARA RUBBER VIA EUROPE.

MAY 25.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co. (Coarse).....	17,000
MAY 31.—By the <i>Germania</i> =Liverpool:	
Reimers & Co. (Coarse).....	17,000
JUNE 8.—By the <i>Campania</i> =Liverpool:	
Robinson & Tallman (Cauché).....	22,500
JUNE 13.—By the <i>Oceania</i> =Liverpool:	
Otto G. Mayer & Co. (Coarse).....	13,500
Ideal Rubber Co. (Fine).....	2,500 16,000
JUNE 17.—By the <i>Umbria</i> =Liverpool:	
Robinson & Tallman (Coarse).....	4,500

CENTRALS.

MAY 27.—By the <i>Hevelius</i> =Pernambuco:	
J. H. Rosbach & Bros.....	18,000
MAY 27.—By the <i>Havana</i> =Mexico:	
Harburger & Stack.....	2,500
Graham, Hineley & Co.....	4,000
H. Marquardt & Co.....	1,500
Jacobs & Allison.....	1,000
E. Steiger & Co.....	100
Thebaud Brothers.....	200 9,300
MAY 28.—By the <i>City of Washington</i> =Colon:	
Roldan & Van Sickle.....	5,000
G. Amsinck & Co.....	4,500
Acanalo & Cossio.....	2,900
Flint, Eddy & Co.....	2,000
Dumarest & Co.....	1,200
A. Santos & Co.....	1,000
Eggers & Heinlein.....	900
R. G. Barthold.....	800
Ellinger Brothers.....	500
W. Loaliza & Co.....	300 19,200
MAY 28.—By the <i>Et Sud</i> =New Orleans:	
A. T. Morse & Co.....	3,500
Eggers & Heinlein.....	2,500
For London, etc.....	2,000 8,000
MAY 28.—By the <i>Atos</i> =Cartagena:	
D. A. De Lima & Co.....	4,000
Flint, Eddy & Co.....	1,500

CENTRALS—Continued.

Guiterman, Rosenfeld & Co.....	700
Jimenez & Escobar.....	1,200
Rothfeld & Wygant.....	1,000
Kunhardt & Co.....	700
G. Amsinck & Co.....	500
New York Commercial Co.....	400 10,000
JUNE 3.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co.....	8,500
E. Steiger & Co.....	1,000
Flint, Eddy & Co.....	1,000
Graham, Hineley & Co.....	1,000
F. Probst & Co.....	500
J. C. Kennedy.....	500
Harburger & Stack.....	300
G. Amsinck & Co.....	500
W. Loaliza & Co.....	200 13,500
JUNE 4.—By the <i>Alleghany</i> =Greytown:	
A. P. Strout.....	6,500
G. Amsinck & Co.....	4,000
A. D. Straus & Co.....	2,500
L. Johnson & Co.....	1,500
D. A. De Lima & Co.....	5,000
Kunhardt & Co.....	3,500
Silva Bussentin & Co.....	1,300
Ricardo Alence.....	400 24,700
JUNE 10.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.....	19,500
A. N. Rotholz.....	2,000
T. N. Morgan.....	1,200
For Europe.....	1,000 23,700
JUNE 10.—By the <i>Atai</i> =Port Limon:	
Guiterman, Rosenfeld & Co.....	1,000
Jimenez & Escobar.....	800
S. Samper & Co.....	700
Kunhardt & Co.....	1,000
New York Commercial Co.....	500
L. Johnson & Co.....	500
Punderford & Co.....	300
G. Amsinck & Co.....	200 5,000
JUNE 11.—By the <i>Allanca</i> =Colon:	
Isaac Brandon & Bros.....	3,200
Crude Rubber Co.....	2,100
A. M. Capen Sons.....	3,400
Dumarest & Co.....	1,800
C. Wesells & Co.....	800
Hirzel, Feitman & Co.....	600

CENTRALS—Continued.

G. Amsinck & Co.....	600
E. Heaney & Co.....	600 13,200
JUNE 13.—By the <i>Prins Willem V</i> =Trinidad:	
Thebaud Bros. (Angostura Fine).....	4,500
Thebaud Bros. (Angostura Coarse).....	500 5,000
JUNE 11.—By the <i>Ithaka</i> =Mexico:	
H. Marquardt & Co.....	2,500
E. N. Tibbais.....	700
Graham, Hineley & Co.....	500
Flint, Eddy & Co.....	500
L. N. Chemedlin & Co.....	200 4,400
JUNE 12.—By the <i>Pennsylvania R.R.</i> =Mexico:	
G. Amsinck & Co.....	2,500
L. N. Chemedlin & Co.....	2,000
Messrs. Hesslein & Co.....	1,600
J. B. Sageman.....	800 6,000
JUNE 13.—By the <i>Fuacan</i> =Mexico:	
Thebaud Brothers.....	7,000
E. Steiger & Co.....	500
A. S. Lascellas & Co.....	1,000
Harburger & Stack.....	500
D. N. Carrington.....	1,000 10,000
JUNE 15.—By the <i>Segurana</i> =Mexico:	
Thebaud Brothers.....	1,500
E. Steiger & Co.....	500
H. W. Peabody & Co.....	500
F. Probst & Co.....	300
J. W. Wilson & Co.....	700 3,500
JUNE 17.—By the <i>El Sud</i> =New Orleans:	
L. N. Chemedlin & Co.....	1,600
Joseph Hecht & Sons.....	1,900
For London.....	2,400 5,000
JUNE 18.—By the <i>Alene</i> =Greytown:	
A. P. Strout.....	6,500
A. D. Straus & Co.....	1,000
Jimenez & Escobar.....	2,700
Guiterman, Rosenfeld & Co.....	2,000
G. Amsinck & Co.....	200 12,400
JUNE 18.—By the <i>Finance</i> =Colon:	
Flint, Eddy & Co.....	3,500
G. Amsinck & Co.....	2,000
Gillespie Bros. & Co.....	1,800
A. P. Strout.....	1,500
Andreas & Co.....	1,000

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

June 1.—By the steamer *Hubert*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauché.	Total.
New York Commercial Co.....	87,400	22,500	61,800	.....	171,700
Crude Rubber Co.....	72,100	11,400	20,900	31,300=	135,700
Reimers & Co.....	22,800	5,000	30,900	.....	58,700
Albert T. Morse & Co.....	10,700	7,900	19,600	3,700=	41,900
Otto G. Mayer & Co.....	9,800	1,300	5,500	.....	16,600
William Wright & Co.....	.....	.....	.....	21,000=	21,000
Lawrence Johnson & Co.....	2,000	.....	200	5,700=	7,900
Total.....	204,800	48,100	138,900	61,700=	453,500

June 10.—By the steamer *Bernard*, from Manáos and Pará:

New York Commercial Co.....	106,600	33,000	56,900	3,700=	200,200
Reimers & Co.....	47,300	10,900	29,500	27,800=	115,500
Otto G. Mayer & Co.....	35,000	4,700	13,200	400=	53,300
Crude Rubber Co.....	18,500	1,800	8,300	7,900=	36,500
Albert T. Morse & Co.....	9,400	4,700	6,400	9,000=	29,500
William Wright & Co.....	.....	.....	.....	8,700=	8,700
Herbst Brothers.....	1,100	1,000	700	.....=	2,800
Total.....	217,900	56,100	115,000	57,500=	446,500

June 15.—By the steamer *Fluminense*, from Manáos and Pará:

Reimers & Co.....	23,700	14,100	32,100	22,000=	91,900
New York Commercial Co.....	36,600	8,000	20,700	.....=	65,300
Crude Rubber Co.....	27,900	3,400	12,900	500=	44,700
Albert T. Morse & Co.....	31,400	6,700	13,400	.....=	51,500
William Wright & Co.....	.....	.....	.....	22,500=	22,500
Otto G. Mayer & Co.....	4,200	1,300	11,800	.....=	17,300
Czarinkow, McDougal & Co.....	4,700	1,200	.....	.....=	5,900
Total.....	128,500	34,700	90,900	45,000=	299,100

June 22.—By the steamer *Ufayali*, from Pará:

New York Commercial Co.....	33,200	2,600	21,700	600=	58,100
Reimers & Co.....	15,300	1,800	22,900	.....=	40,000
Crude Rubber Co.....	11,800	1,400	8,400	.....=	21,600
Otto G. Mayer & Co.....	.....	.....	8,900	.....=	8,900
Albert T. Morse & Co.....	700	.....	3,200	.....=	3,900
Total.....	61,000	5,800	65,100	600=	132,500

[NOTE.—The *Maranhense*, from Pará, is due at New York July 4, with 260 tons of rubber.]

CENTRALS—Continued.

Lawrence Johnson & Co.	800	
Roldan & Van Sickle	800	11,500
JUNE 21.—By El Cid=New Orleans:		
A. T. Morse & Co.	7,000	
A. N. Rotholz	1,000	
Rubber, Celluloid & Harness Co.	3,500	11,500
JUNE 21.—By the Pennsylvania=Hamburg:		
Reimers & Co.	8,500	
Livesey & Co.	5,000	9,500
JUNE 22.—By the Havana=Mexico:		
E. Steiger & Co.	2,000	
H. Marquardt & Co.	2,000	
Frank Brothers	1,000	
P. Harmony Nephews & Co.	1,200	
Fred. Probst & Co.	800	7,000

AFRICANS.

MAY 25.—By the Lucania=Liverpool:		
Ideal Rubber Co.	17,000	
Livesey & Co.	3,000	14,000
MAY 27.—By the Dona Maria=Lisbon:		
Otto G. Mayer & Co.		22,500
MAY 27.—By the Zealand=Antwerp:		
A. T. Morse & Co.	16,000	
Otto G. Mayer & Co.	4,500	
Reimers & Co.	4,500	25,000
MAY 29.—By the Bohemian=Liverpool:		
George A. Alden & Co.		22,500
MAY 31.—By the Germanic=Liverpool:		
Livesey & Co.		13,000
MAY 31.—By the Patricia=Hamburg:		
Reimers & Co.	17,000	
A. T. Morse & Co.	12,000	
Robinson & Tallman	3,500	32,500
JUNE 3.—By the Etruria=Liverpool:		
George A. Alden & Co.	31,000	
Crude Rubber Co.	33,500	
Robinson & Tallman	43,000	
Livesey & Co.	17,000	
Reimers & Co.	5,500	133,000
JUNE 3.—By the St. Louis=Southampton:		
Reimers & Co.		4,500
JUNE 3.—By the Ithal=Liverpool:		
George A. Alden & Co.	12,000	
Crude Rubber Co.	12,000	25,000
JUNE 7.—By the St. Catharine=Antwerp:		
Livesey & Co.		13,500
JUNE 30.—By the Friesland=Antwerp:		
George A. Alden & Co.	195,000	
Crude Rubber Co.	187,000	
Joseph Cantor	5,000	
Otto G. Mayer & Co.	2,500	390,000
JUNE 8.—By the Campania=Liverpool:		
Reimers & Co.	43,000	
Livesey & Co.	16,000	59,000
JUNE 11.—By the Southwark=Antwerp:		
Reimers & Co.		4,500

AFRICANS—Continued.

Otto G. Mayer & Co.	2,500	7,000
JUNE 11.—By the Georgie=Liverpool:		
Crude Rubber Co.		22,500
JUNE 17.—By the Umbria=Liverpool:		
Robinson & Tallman	20,000	
Reimers & Co.	18,000	
Livesey & Co.	10,000	
George A. Alden & Co.	9,000	
Crude Rubber Co.	8,500	65,500
JUNE 20.—By the Teutonic=Liverpool:		
George A. Alden & Co.	42,000	
A. T. Morse & Co.	7,500	49,500
JUNE 21.—By the Pennsylvania=Hamburg:		
George A. Alden & Co.	18,500	
Crude Rubber Co.	13,500	
A. T. Morse & Co.	11,500	
Reimers & Co.	11,500	
Livesey & Co.	6,500	
William Wright & Co.	11,500	68,000

EAST INDIAN.

JUNE 3.—By the Alberg=Singapore:		
Reimers & Co.	26,000	
D. F. Cruikshank	11,000	37,000
JUNE 10.—By the Miane=London:		
George A. Alden & Co.		5,500
JUNE 11.—By the Trave=Genoa:		
R. Brans & Co.		11,500
JUNE 20.—By the Mesaba=London:		
J. W. Greene & Co.		16,000
JUNE 21.—By the Gymeric=Singapore:		
R. Brans & Co.	14,000	
George A. Alden & Co.	11,000	25,000

PONTIANAK.

JUNE 2.—By the Alberg=Singapore:		
Reimers & Co.	675,000	
R. Brans & Co.	480,000	
William Wright & Co.	300,000	
Livesey & Co.	160,000	1,515,000
JUNE 10.—By the Manitou=London:		
Kramrich & Co.	45,000	
George A. Alden & Co.	2,000	47,000
JUNE 21.—By the Gymeric=Singapore:		
R. Brans & Co.		600,000

GUTTA-PERCHA AND BALATA.

MAY 31.—By the Patricia=Hamburg:		
R. Soltan & Co.		6,000
JUNE 17.—By the Bowie=Liverpool:		
R. Crooks & Co.		4,100
JUNE 20.—By the Mesaba=London:		
J. W. Greene & Co.		3,800
BALATA.		
JUNE 10.—By the Manitou=London:		
Earle Brothers		4,500

GUTTA-PERCHA—Continued.

JUNE 18.—By the St. Paul=Southampton:		
George A. Alden & Co.		2,500

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUE.
India-rubber	5,107,198	\$2,811,807
Gutta-percha	6,810	4,361
Gutta-jelatang (Pontianak)		
Total	5,114,008	\$2,816,168
Exports:	POUNDS.	VALUE.
India-rubber	131,459	\$107,279
Reclaimed rubber	156,694	17,401
Rubber Scrap Imported	717,460	\$46,496

BOSTON ARRIVALS.

MAY 2.—By Metropolitan Steamship Co.=New York:		
Africans arrived New York April 25 by the Friesland=Antwerp		41,031
MAY 2.—By the Saxon=Liverpool:		
Livesey & Co.—African		2,288
MAY 3.—By the Michigan=Liverpool:		
Reimers & Co.—Coarse Para		31,750
MAY 5.—By the Callisto=Hamburg:		
Reimers & Co.—African		23,586
MAY 7.—By the Castrion=Liverpool:		
Reimers & Co.—African		6,644
MAY 14.—By Metropolitan Steamship Co.=New York:		
Africans arrived New York May 8 by the Southwark=Antwerp		148,735
MAY 16.—By the Sagamore=Liverpool:		
Reimers & Co.—Fine Para	22,000	
Reimers & Co.—African	15,621	37,621
MAY 17.—By the Elba=Hamburg:		
George A. Alden & Co.—African		10,577
Total		302,176

[Value, \$70,163.]

[NOTE.—The above arrivals are entered at the Custom House. There are advices of an additional arrival, viz.: By the Fernida=Liverpool, May 23—Livesey & Co., Africans, 2,500.]

GUTTA-PERCHA.

MAY 2.—By the Cambrian=London:		
George A. Alden & Co.		2,300
MAY 8.—By the Peruvian=Glasgow:		
		1,200
MAY 12.—By the Virginian=London:		
		13,000
Total		16,504

MAY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.	73,715	18,735	50,827	140	143,417	68,850	11,730	12,100	2,100	94,780	238,197
Adelbert H. Alden	78,054	14,666	62,536	—	155,256	6,840	720	2,560	—	10,120	165,376
Frank da Costa & Co.	18,620	3,407	27,631	38	49,696	15,924	1,950	23,366	2,100	43,340	93,036
The Sears Para Rubber Co.	30,658	3,890	16,103	976	51,536	—	—	—	—	—	51,536
Rudolf Zietz	907	320	3,200	—	4,427	25,628	3,074	10,132	2,784	41,618	46,045
Denis Crouan & Co.	—	—	—	—	—	15,000	2,040	2,880	—	19,920	19,920
Kanthack & Co.	—	—	—	—	—	3,647	673	1,135	—	5,455	5,455
Pires Teixeira & Co.	730	—	215	—	945	—	—	—	—	—	945
Sundry small shippers	—	—	—	—	—	1,530	—	1,620	—	3,150	3,150
Direct from Itacatiara	—	—	—	—	—	6,240	—	2,060	119	8,419	8,419
Direct from Iquitos	—	—	—	—	—	1,345	—	21,417	49,663	72,425	72,425
Direct from Manaos	170,861	52,108	91,943	139,645	454,557	123,936	39,044	101,354	534,340	798,674	1,253,231
Total for May	373,545	93,126	252,354	140,799	859,834	268,940	59,231	178,614	591,106	1,097,901	1,957,735
Total for April	1,092,564	203,378	405,560	229,474	1,931,476	359,209	71,378	154,012	323,610	608,209	2,539,685
Total for March	1,521,789	380,085	568,491	332,491	2,803,756	955,590	224,615	375,552	576,700	2,132,457	4,936,213
Total for February	1,015,987	278,004	549,566	251,815	2,095,372	789,338	198,350	306,855	154,519	1,449,062	3,544,434
Total for January	577,296	119,433	420,279	53,772	1,070,780	656,333	116,246	252,554	120,064	1,145,197	2,215,977

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CABLE ADDRESS,
"GUTTAPERCH, TORONTO."



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Rubber Belting Packings, Hose and Mechanical Rubber Goods

SOLE MANUFACTURERS IN
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"Kelly-Springfield" Solid Rubber Carriage Tires,
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"Eureka," "Paragon" and other High Grades Cotton Fire Hose.

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THE GUTTA PERCHA & RUBBER MFG. CO.

OF TORONTO, LIMITED.

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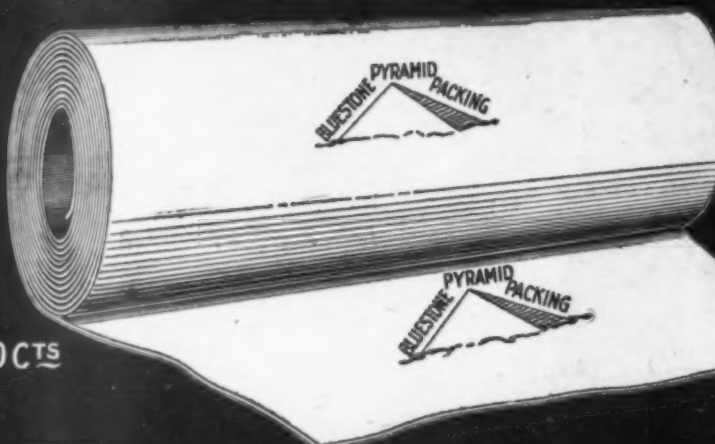
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